PCR Guidance-Texts for Building-Related Products and Services

From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU)

Part B: Requirements on the EPD for Building Hardware products

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Institut Bauen und Umwelt e.V.

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Version	Comments	Status

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Scope

This document contains the **Requirements on an Environmental Product Declaration (EPD)** from the range of Environmental Product Declarations published by Institut Bauen und Umwelt e.V. (IBU) based on the /EN 15804/ standard. The document applies for:

the Building Hardwareproducts carrying out at least one of these functions described below:

- Building hardware products for opening and closing doors, gates, windows and shutters:
  - Door and window handles (EN 1906), Hinges (EN 1935), Window fittings (EN 13126), Shutter hardware devises; Door closers (incl. Door coordinators) (EN 1154 + A1, EN 1158 + A1); Sliding door gear (EN 1527, EN 15706); Glass door gear

- Building hardware products for locking and unlocking doors, gates, windows and shutters:
  - Locks (EN 12209, EN 15685, P26-432); Locking cylinders (EN 1303); Padlocks (EN12320), Push button locks; Panic exit devices (EN179, EN1125)

- Building hardware products for other purposes:
  - Letter boxes (EN 13724)

Note: validity for electromechanical building hardware products only if reference scenarios are defined.

The requirements on the EPD include:

- Requirements on the /EN 15804/ standard as a European core EPD,
- Complementary requirements on IBU EPD

The calculation rules for the Life Cycle Assessment and Requirements on the Background Report are specified in a separate document as Part A of the Product Category Rules.
The general principles for the EPD range of Institut Bauen und Umwelt e.V. (IBU) also apply.

Notes on use of the format template

Insert text: Content requirements are shown in blue color under the respective titles. These colored texts can be edited by clicking. In the appearing text editor, the content requirements are outlined above for further assistance. The relevant text can be entered below. After confirming the input, texts are incorporated into the document and displayed.

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Technical tables: Click on the table, to open the table editor. Insert your values (= numbers) in the respective field in the column "Value". For each row you can choose between 3 value types: value (= number), range (= consisting of two numbers separated with a hyphen) and a free text (eg "test passed after 3 days"). On the far left you can hide not relevant rows by clicking on the check. Click the button “add new property” to generate a new row with free text space. It is not allowed to insert a picture instead of a table!

Chapter 5, "Results of the LCA ': click on the first table "system boundaries" and select in the following dialog all life stages you want to declare. Then the following three tables are adjusted according to your entries. Now you can insert numerical values by clicking on the tables. The numerical values are to be indicated with three significant digits. To achieve an optimal representation may be the "exponential view" can be selected depending on impact indicator.

Storing is done fully automatic.

The first three pages of the document will be deleted automatically after creation of the EPD.

Labeled sample texts are proposals to facilitate the creation of an EPD. If they are accepted into an EPD, they should be checked for their accuracy and if necessary adapted product-specific.

Requirements on content and format:

The chapters of the EPDs must be described in a compact form, as well as factually and technically 100% correct. Judgmental, comparative, or promotional texts are not permitted unless specifically requested in the PCR or if necessary in the context of the EPD. Each document is carefully checked before publication.

Extent of an EPD: An EPD may contain due to technical reasons, a maximum of one data set. This means that the tables for the LCA results are available only once per EPD. All four tables of the LCA results (Chapter 5) must be located entirely on one side.

An EPD should not exceed 8 pages.

Quotations should be indicated with a slash, for example: /EN 15 804/. The literature cited is to be shown completely in the references (Chapter 8).

Product-group-specific LCA calculation rules from PCR part A

The following Tables are mandatory to use in the chapter "Technical Data":
Please use the table for the specific Product group of the developed EPD.

Technical Characteristics (Technische Daten)
Door and window handles acc. to the classification in EN 1906

Classes	Required technical characteristics	Defined grades
1	Category of use	1 – 4
2	Durability	6, 7
3	Test door mass	-
4	Suitability for fire resistance & smoke control doors	0, A, A1, B, B1, C, C1, D, D1
5	Safety	0, 1
6	Corrosion resistance	0 – 5
7	Security – burglar resistance	0 – 4
8	Type of operation	A, B, U

Hinges acc. to the classification in EN 1935

Classes	Required technical characteristics	Defined grades
1	Category of use	1 - 3
2	Durability	1 - 3
3	Test door mass	1 - 10
4	Suitability for fire resistance & smoke control doors	0, A, B
5	Safety	1
6	Corrosion resistance	0 - 5
7	Security – burglar resistance	0 - 1
8	Hinge grade	2 - 17

Window fittings acc. to the classification in EN 13126

Classes	Required technical characteristics	Defined grades
1	Category of use	-
2	Durability	3, 4, 5
3	Sash mass	-
4	Fire resistance	0
5	Safety	1
6	Corrosion resistance	2, 3, 4
7	Security – burglar resistance	-
8	Hinge grade	2 - 17

Shutter Hardware devices
Similar to window fittings. No Grades defined as no EN or national standard available
Door Closers including coordinating devices acc. to the classification in EN 1154 and EN 1158

Classes	Required technical characteristics	Defined grades
1	Category of use	3, 4
2	Durability	5, 8
3	size	1 - 7
4	Fire resistance	0, 1
5	Safety	1
6	Corrosion resistance	0, 1, 2, 3, 4

Sliding door gear acc. to the classification in EN 1527 and EN 13126-15

Classes	Required technical characteristics	Defined grades
1	Category of use	-
2	Durability	1 - 6
3	door mass	1 - 4
4	Fire resistance	-
5	Safety	1
6	Corrosion resistance	0 - 5
7	Security – burglar resistance	-
8	Category of door	1, 2, 3

Glass door gear acc. to the classification in EN 1527

Classes	Required technical characteristics	Defined grades
1	Category of use	-
2	Durability	1 - 6
3	door mass	1 - 4
4	Fire resistance	-
5	Safety	1
6	Corrosion resistance	0 - 5
7	Security – burglar resistance	-
8	Category of door	1, 2, 3

Locks acc. to the classification in EN 12209 and EN 15685

Classes	Required technical characteristics	Defined grades
1	Category of use	1 - 3
2	Durability	A, B, C, L, M, R, S, W, X
3	door mass and closing force	0 - 9
4	Suitability for use in fire resisting and/or smoke control door set	0, A, B, N
5	Safety	0
6	Corrosion resistance	0, A, C, D, F, G
7	Security – burglar resistance	0 - 7
8	Key identification of lever locks	0, A, B, C, D, E, F, G, H

Locking cylinders acc. to the classification in EN 1303

Classes	Required technical characteristics	Defined grades
1	Category of use	1
2	Durability	4 - 6
3	door mass	0
4	Suitability for use in fire resisting and/or smoke control doors	0, A, B
5	Safety	0
6	Corrosion resistance and temperature	0, A, B, C
7	Key related security	1 - 6
8	Attack resistance	0, A, B, C,D

Padlocks acc. to the classification in EN 12320

Classes	Required technical characteristics	Defined grades
1	Category of use	1
2	Durability	0, 1
3	Corrosion resistance	1 - 6
4	Safety	1 - 6

Push button locks

Similar to panic exit devices. No Grades defined as no EN or national standard available

Panic exit devices and emergency exit devices acc. to the classification in EN 179 and EN 1125

Classes	Required technical characteristics	Defined grades
1	Category of use	3
2	Durability	6, 7
3	door mass	5, 6, 7
4	Suitability for use in fire resisting and/or smoke control doors	0, A, B
5	Safety	1
6	Corrosion resistance	3, 4
7	Security	2 - 5
8	Projection of operating element	1, 2
9	Type of operation	A, B
10	Field of door application	A, B, C, D

Letter boxes acc. to the classification in EN 13724

Classes	Required technical characteristics	Defined grades
1	Depository slot types	1 - 4
2	Depository slot sizes	1, 2
3	Corrosion resistance	0, 3, 4
4	Safety	1, 2

ENVIRONMENTAL PRODUCT DECLARATION

as per /ISO 14025/ and /EN 15804/

Owner of the Declaration	
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	
ECO EPD Ref. No.	
Issue date	
Valid to	

Name of declared product

Name of manufacturer/association

www.ibu-epd.com / https://epd-online.com

Institut Bauen und Umwelt e.V.

Large picture of the product

Small picture
max. 4 MB

Small picture size:

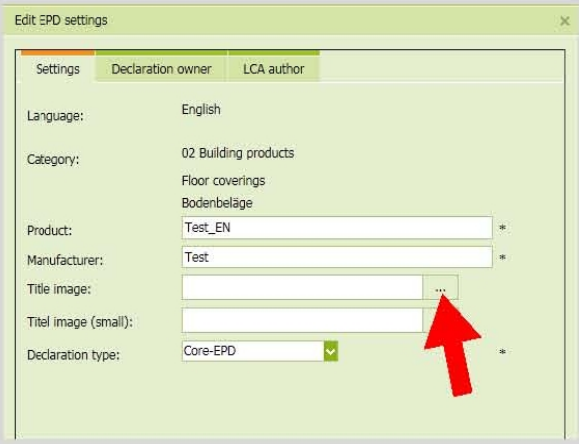
w x h = 400 x 400 pixel

Maximum file size 4 MB!

Recommended picture size: width 1000 pixel, height 650 pixel

Note: if the size of the image does not correspond to the dimensions given, the image is may shown distorted.

Insert the picture: Click on the right side of your screen "Edit Properties" and enter the location of the image on your PC.



LOGO

1. General Information

Name of the manufacturer	Name of the product
Programme holder IBU - Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin Germany	**Owner of the Declaration** Name of the manufacturer Street Postal Code/City
Declaration number	**Declared product / Declared unit** Name of declared product / declared unit
This Declaration is based on the Product Category Rules: Name of PCR, 02.2016 (PCR tested and approved by the SVR)	**Scope:** The products, plants and their locations on which data the Life Cycle Assessment is based and for which the Declaration applies must be outlined. For average EPDs, e.g. Association EPDs, this type of EPD must be referred to. The plants/companies reviewed, on whose data the Life Cycle Assessment is based and for which the Declaration applies, must be referred to by name; alternatively, the representativity of the Declaration for the association can be depicted as regards the production volume and technology used and covered by the Life Cycle Assessment. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.
Issue date	
Valid to	**Verification** The CEN Norm /EN 15804/ serves as the core PCR Independent verification of the declaration according to /ISO 14025/ ☐ internally ☒ externally
[Unterschrift] Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)	[Unterschrift] Name of verifier (Independent verifier appointed by SVR)
[Unterschrift] Dr.-Ing. Burkhart Lehmann (Managing Director IBU)	

2. Product

2.1 Product description / Product definition

The declared products must be described..

Example:
"This document refers to a range of steel Grade 1 mechanical mortise locks. These locks feature a variety of mechanical locking functions, including optional deadbolt and multiple lever functions.
A weighted average based on total sales figures for each product was calculated from a sample group of 15 individual products.
The characteristics of these products are as follows..."

Product definition (Please select one of the following options):

/Alternative 1a: Product according to the CPR based on a hEN/:
For the placing on the market of the product in the EU/EFTA (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a Declaration of Performance taking into consideration /EN xyz,date, title/ and the CE-marking.
For the application and use the respective national provisions apply.

/Alternative 1b: Products according to the CPR based on an ETA/.
For the placing of the product on the market in the EU/EFTA (with the exception of Switzerland) the Regulation (EU) No. 305/2011 (CPR) applies. The product needs a Declaration of Performance taking into consideration /ETA.xyz,date, title/ and the CE-marking.
For the application and use the respective national provisions apply.

/Alternative 2a: Product not harmonised in accordance with the CPR but in accordance with other harmonisation provisions of the EU/:
For the placing on the market in the EU/EFTA (with the exception of Switzerland) the following legal provisions apply:
/Directive No. xyz, date, title /
/Regulation No.xyz, date, title/
and the harmonised norms based on these provisions:.
/EN xyz, date, title/
The CE-marking takes into account the proof of conformity with the respective harmonized norms based on the legal provisions above.

For the application and use the respective national provisions apply.

/Alternative 2b: Product harmonized as well in accordance with the CPR as with other harmonisation provisions of the EU/:
For the placing of the product on the market in the EU/EFTA (with the exception of Switzerland) the Regulation (EU) No. 305/2011/ (CPR) and the following other harmonisation provisions apply: /Directive (EU) xyz, date, titel/ or /Regulation (EU) No. xyz, date, title/ respectively. The product needs a Declaration of Performance in accordance with the CPR taking into consideration /EN xyz: date, title/ or /ETA No. xyz , date, title/ respectively, and the CE-marking.
The CE-marking for the product takes into account the Declaration of Performance in accordance with the CPR and the proof of conformity with the following harmonised norms based on the other harmonisation provisions.
/EN…../
For the application and use the respective national provisions apply.

/Alternative 3: Product for which no legal harmonization provisions of the EU exist/
For the use and application of the product the respective national provisions at the place of use apply, in Germany for example the Building Codes of the countries and the corresponding national specifications.

2.2 Application
The designated application for the products referred to must be specified

2.3 Technical Data
The technical specifications of the products that are within the scope of the EPD are to name with reference to the individual assessment rules (for example, standards).
For products with CE marking, in particular the performances must be specified in accordance with the performance declaration.

Please list the Technical Data according to the List in the chapter “Product group specific calculation rules”
Example:
Technical Data for Locking Cylinders acc. to the classification in EN 1303:

(Please select one of the following options):
/Alternative 1a:Product according to the CPR, based on a hEN/:
- Performance data of the product in accordance with the Declaration of Performance with respect to its Essential Characteristics according to /EN xyz date, title/
- Voluntary data: /source, date, title/ ((Not part of CE-marking)).

/Alternative 1b: Product according tot he CPR, based on an ETA /:
- Performance data of the product in accordance with the Declaration of Performance with respect to its Essential Characteristics according to /ETA xyz No., date, title/
- Voluntary data: /source, date, title/ ((Not part of CE-marking)).

/Alternative 2a: Product not harmonised in accordance with the CPR but in accordance with other harmonisation provisions of the EU/:
- Performance data of the product according to the harmonised norms, based on the harmonisation provisions.
- Voluntary data: /source, date, title/ ((Not part of CE-marking)).

/Alternative 2b : Product harmonized as well in accordance with the CPR as with other legal provisions of the EU/:
- Performance data of the product in accordance with the Declaration of Performance with respect to its Essential Chacteristics according to /EN xyz, date,, title/ or /ETA xyz, No., date, title/ respectively.
- Performance data of the product, based on the harmonised norms, in accordance with the other lharmonisation provisions
- Voluntary data: /source, date, title/ ((Not part of CE-marking)).

/Alternative 3: Product for which no legal harmonization provisions of the EU exist/:
Performance data of the product with respect to its characteristics in accordance with the relevant technical provision ((No CE-marking)).

2.4 Delivery status
The dimensions/quantities of products declared must be indicated in the delivery status.

2.5 Base materials / Ancillary materials
The primary product components and/or materials must be indicated as a percentage mass to enable the user of the EPD to understand the composition of the product in delivery status. This information should also support safety and efficiency during installation, usage and disposal of the product.
Declaration of material product content must list at least those substances contained in the product which are included in the “Candidate List of Substances of Very High Concern for Authorisation” where their contents exceed the limit values for registration by the European Chemicals Agency.
Information such as “… is free of …” may not be used.
Ancillary materials and additives remaining on the product must also be declared.
If additives such as fire retardants, softeners or biocides are used, their functional chemical group must be indicated.

2.6 Manufacture
The manufacturing process must be described and can be illustrated using a simple graphic. If the EPD applies for several locations, the production processes for all locations must be described.
Quality management systems can be referred to.

2.7 Environment and health during manufacturing
Presentation of measures relating to health protection during the manufacturing process extending beyond national guidelines (of the production country).
Presentation of measures relating to environmental protection during the manufacturing process extending beyond national guidelines or plant-specific requirements, e.g. description of special environmentally-friendly dealings with waste air, waste water and waste as well as noise emissions.

Information on the Environment Management System or similar (if available).

2.8 Product processing/Installation

Description of the type of processing, machinery, tools, dust extraction etc. to be used and auxiliary materials as well as measures for reducing noise
Information on the rules of technology and industrial and environmental protection is possible.

2.9 Packaging

Information on product-specific packaging: type, composition and possible reuse of packaging materials (paper, pallets, foils etc.).

2.10 Condition of use

Information should be provided here as regards the special features of contents for the period of use.

2.11 Environment and health during use

Information on the relationships between products, the environment and health; possible content of harmful substances or emissions.
Any recommendations concerning cleaning, maintenance etc. of the declared product should be listed in the corresponding section in 4 “Technical information on scenarios”.

2.12 Reference service life

The indication of the reference service life (RSL) is imperative for EPDs covering the complete use stage (modules B1-B7), or if a use stage scenario is described, which refers to the lifetime of the product. If not all modules of the use stage are being declared, and no use stage scenario which refers to the lifetime of the product is being described, the indication of the RSL (according to /ISO 15686:1, -2, -7 and -8/) is voluntary.
The RSL must refer to the declared technical and functional quality of the product. It must be established in line with all of the specific rules in the European product standards and must also take consideration of the /ISO 15686:1, -2, -7 and -8/ standards.
Where information is available for deriving the RSL from European product standards, such data has priority.

The assumptions on which determination of the reference service life is based and for which the reference service life exclusively applies are provided in section “LCA: Scenarios and additional technical information”. If no RSL in accordance with /ISO 15686/ has been declared, the assumptions for the life time have to be described.
Influences on ageing when applied in accordance with the rules of technology
.

2.13 Extraordinary effects

Fire
.Information on fire performance according to /EN 13501:1/ or established national standards. According to /EN 13501/ - the classification of building products is set to A1, A2, B, C, D, E and F; flaming droplets / particles is set to d0, d1 or d2, and the smoke density is set to s1, s2, or s3.

Fire protection

Name	Value
Building material class	
Burning droplets	
Smoke gas development	

Water
Information on product performance including possible impacts on the environment following unforeseeable influence of water, e.g. flooding.

Mechanical destruction
If relevant: Information on product performance including possible impacts on the environment following unforeseeable mechanical destruction.

2.14 Re-use phase

The possibilities of re-use, recycling and energy recovery must be described.

2.15 Disposal

The possible disposal channels must be indicated. The waste code in accordance with the European Waste Index must be indicated.

2.16 Further information

Optional details, indication of reference source for additional information, e.g. homepage, reference source for safety data sheet.

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit, the mass reference and the conversion factor to 1 kg must be indicated in the appropriate table as declared. If averages are declared across various products, the average breakdown must be explained
The functional unit represents an expected product performance level. It is characterised by a reference flow, i.e. a measurable set of inputs used to perform the service, and by a reference service life, that is the time during which this service is performed.
The functional unit can be replaced by a declared unit, whenever the function of the product at the building scale cannot be precisely determined, for example a product sold by the meter, or a hardware product to be incorporated within another construction product such as a door or a window.

The declared unit is one piece of product. The mass per piece of either a reference product or a specific product must be stated. In justifiable cases the declared unit 1kg is allowed, if the mass of the declared product is stated.

Declared unit

Name	Value	Unit
Declared unit		1 piece/product
Conversion factor to 1 kg		-
Mass of declared Product		kg

3.2 System boundary

Type of the EPD: choose as appropriate: cradle to gate, cradle to gate - with options, cradle to grave].

The modules considered in the Life Cycle Assessment as per “System limits” outlined in section 5.5. of the PCR, Part A: “Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report” must be described in brief. It should be apparent as to what processes are considered in what modules.

3.3 Estimates and assumptions

Key assumptions and estimates for interpretation of the Life Cycle Assessment should be referred to here provided that they are not dealt with in other sections of 3 “LCA: Calculation rules”.

3.4 Cut-off criteria

The use of cut-off criteria as per the PCR, Part A: “Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report” must be documented here.

3.5 Background data

The sources for background data used must be provided.

3.6 Data quality

An estimate should be made as regards data quality (Foreground and Background data), whereby the age of background data used must be indicated.

3.7 Period under review

The period under review and ensuing averages must be documented.

3.8 Allocation

The allocations of relevance for calculation (appropriation of expenses across various products) must be indicated, at least:

- Allocation in the use of recycled and/or secondary raw materials
- Allocation of energy, auxiliary and operating materials used for individual products in a factory
- Credits from recycling or energy recovery of packaging materials and production waste
- Credits from recycling or energy recovery from the end of life of the product
-

whereby reference must be made to the modules in which the allocations are performed.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to /EN 15804/ and the building context, respectively the product-specific characteristics of performance, are taken into account. The used background database has to be mentioned.

4. LCA: Scenarios and additional technical information

The following information is necessary for the declared modules and optional for non-declared modules. Modules for which no information is declared can be deleted; additional information can also be listed if necessary.]
The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment if modules are not declared (MND).

If the use of packaging material for the declared product is declared in EPDs in Module A3, but Module A5 is not declared with the disposal of the packaging material on the construction site, the recorded amounts of packaging materials must be declared as technical scenario information for Module A5 in the EPD, chap. 4.
.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel		l/100km
Transport distance		km
Capacity utilisation (including empty runs)		%
Gross density of products transported		kg/m^3
Capacity utilisation volume factor		-

Installation into the building (A5)

Name	Value	Unit
Auxiliary		kg
Water consumption		m^3
Other resources		kg
Electricity consumption		kWh
Other energy carriers		MJ
Material loss		kg
Output substances following waste treatment on site		kg
Dust in the air		kg
VOC in the air		kg

Use or application of the installed product (B1) see section 2.12 "Use"

Name	Value	Unit

Maintenance (B2)

Name	Value	Unit
Information on maintenance		-
Maintenance cycle		Number/ RSL
Water consumption		m^3
Auxiliary		kg
Other resources		kg
Electricity consumption		kWh
Other energy carriers		MJ
Material loss		kg

Repair (B3)

Name	Value	Unit
Information on the repair process		-
Information on the inspection process		-
Repair cycle		Number/ RSL
Water consumption		m^3
Auxiliary		kg
Other resources		kg
Electricity consumption		kWh
Other energy carriers		MJ
Material loss		kg

Replacement (B4) / Refurbishment (B5)

Name	Value	Unit
Replacement cycle		Number/ RSL

Electricity consumption		kWh
Litres of fuel		l/100km
Replacement of worn parts		kg

In case a **reference service life** according to applicable ISO standards is declared then the assumptions and in-use conditions underlying the determined RSL shall be declared. The same holds for a service life declared by the manufacturer.

Reference service life

Name	Value	Unit
Reference service life (according to ISO 15686-1, -2, -7 and -8)		a
Life Span (according to BBSR)		a
Life Span according to the manufacturer		a
Declared product properties (at the gate) and finishes		-
Design application parameters (if instructed by the manufacturer), including the references to the appropriate practices and application codes		-
An assumed quality of work, when installed in accordance with the manufacturer's instructions		-
Outdoor environment, (for outdoor applications), e.g. weathering, pollutants, UV and wind exposure, building orientation, shading, temperature		-
Indoor environment (for indoor applications), e.g. temperature, moisture, chemical exposure		-
Usage conditions, e.g. frequency of use, mechanical exposure		-
Maintenance e.g. required frequency, type and quality and replacement of components		-

Operational energy use (B6) and Operational water use (B7)

Name	Value	Unit
Water consumption		m^3
Electricity consumption		kWh
Other energy carriers		MJ
Equipment output		kW

End of life (C1-C4)

Name	Value	Unit
Collected separately Abfalltyp		kg
Collected as mixed construction waste		kg
Reuse		kg
Recycling		kg
Energy recovery		kg
Landfilling		kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit

5. LCA: Results

In Table 1 "Description of the system boundary", all declared modules shall be indicated with an "X"; all modules that are not declared shall be indicated with "MND". In the following tables 2, 3 and 4, columns may be deleted for modules that are not declared. Indicator values should be declared with three valid digits (eventually exponential form (e.g. 1,23E-5 = 0,0000123). A uniform format should be used for all values of one indicator. If several modules are not declared and therefore have been deleted from the table, the abbreviations for the indicators can be replaced by the complete names, while the readability and clear arrangement should be preserved; the legends can then be deleted.
If no reference service life is declared (see chapter 2.13 "Reference Service Life"), the LCA results of the modules B1-B2 and B6-B7 must refer to a period of one year. This must be indicated as an explanatory text in Chapter 5, "LCA: Results". Also in this case, the calculation formula for the total life cycle results is to be specified.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: declared unit and product

Parameter	Parameter	Unit	
GWP	Global warming potential	[kg CO_2-Eq.]	
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	
AP	Acidification potential of land and water	[kg SO_2-Eq.]	
EP	Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	
ADPE	Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	
ADPF	Abiotic depletion potential for fossil resources	[MJ]	

Caption	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources

RESULTS OF THE LCA - RESOURCE USE: declared unit and product

Parameter	Parameter	Unit	
PERE	Renewable primary energy as energy carrier	[MJ]	
PERM	Renewable primary energy resources as material utilization	[MJ]	
PERT	Total use of renewable primary energy resources	[MJ]	
PENRE	Non-renewable primary energy as energy carrier	[MJ]	
PENRM	Non-renewable primary energy as material utilization	[MJ]	
PENRT	Total use of non-renewable primary energy resources	[MJ]	
SM	Use of secondary material	[kg]	
RSF	Use of renewable secondary fuels	[MJ]	
NRSF	Use of non-renewable secondary fuels	[MJ]	
FW	Use of net fresh water	[m³]	

Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: declared unit and product

Parameter	Parameter	Unit	
HWD	Hazardous waste disposed	[kg]	
NHWD	Non-hazardous waste disposed	[kg]	
RWD	Radioactive waste disposed	[kg]	
CRU	Components for re-use	[kg]	
MFR	Materials for recycling	[kg]	
MER	Materials for energy recovery	[kg]	
EEE	Exported electrical energy	[MJ]	
EET	Exported thermal energy	[MJ]	

Caption	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

6. LCA: Interpretation

To facilitate comprehension of the Life Cycle Assessment, both the aggregate indicators of the Life Cycle Inventory Analysis (LCIA) and the estimated impact outlined in section 5 “LCA results” must be interpreted in a dominance analysis.
This interpretation must also include a description of the time frame and/or variance of the LCIA results if the EPD is valid for several products. An illustration of the results with figures is recommended, e.g. for the dominance analysis, the distribution of impacts across the modules, the CO2-balance, etc. as appropriate for a reader's understanding of the environmental profile of the declared product.

7. Requisite evidence

As a general rule, all statements must be documented with measured data (presented by the corresponding test certificates). In the case of non-verifiable substances, the limit of detection must be included in the declaration. Interpreting statements such as “… free of …” or “… are entirely harmless …” are not permissible.

If relevant to the scope of the declared product, or due to the material composition derivable, it is recommended to provide adequate evidence. The methods of evidence and the test conditions are to be indicated. If evidence are not provided the reasons are to be indicated in the EPD.

8. References

The literature referred to in the Environmental Product Declaration must be quoted in full from the following sources. Standards and standards relating to evidence and/or technical features already fully quoted in the EPD do not need to be listed here. Part B of the PCR document on which they are based must be referred to.

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin(pub.): Generation of Environmental Product Declarations (EPDs);
General Principles
for the EPD range of Institut Bauen und Umwelt e.V. (IBU), 2013/04
www.ibu-epd.de

/ISO 14025/
DIN EN /ISO 14025:2011-10/, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

/EN 15804/
/EN 15804:2012-04+A1 2013/, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

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Additional contents for the transmission of the EPD data set to the ÖKOBAUDAT system

A: Technology description and included processes
Description of the manufacturing process and specification of the processes and materials used.