



InData

International Open Data Network for
Sustainable Building

FAQ

Table of Definitions ILCD+EPD Data Format
InData Compliance CPEN2018
(EN 15804, Construction Products)

FAQ - "Table of Definitions of ILCD+EPD data format, InData compliance CPEN2018 (EN15804, construction products)

The Table of Definitions and this FAQ-Catalogue refers to ILCD+EPD data format with InData compliance CPEN2018. This means it refers to data of construction products according to EN 15804. Please note, that InData, with this current version of ILCD+EPD data format and InData compliance CPEN2018 only supports EN15804 and construction products, and takes no responsibility for usage in other sectors.

General comment: Numbers in brackets relate to column "possible display order" of "Table of definitions of ILCD+EPD data format, InData compliance CPEN2018 (EN15804, construction products)"

(4) What's a UUID?

A Universally Unique Identifier (UUID) is an artificial identifier in form of a 16 byte (corresponding to 32 digits) hexadecimal number. It is randomly generated by the software and used to uniquely identify each dataset. The probability that the same UUID is generated twice is nearly zero.

More detailed information about UUIDs can be found at

https://en.wikipedia.org/wiki/Universally_Unique_Identifier

(4) + (47) When is the UUID of a dataset to be changed? And what about the data set version number?

Once a dataset is created and a UUID for it is generated, this UUID stays the same forever. Any time the dataset is changed, for instance error corrections or additions are being made, the version number is incremented (usually automatically by the software). This way, it is transparent to anyone at any time which of two different copies of a dataset is the more recent one.

However, whenever such a change would actually change the semantic meaning of a dataset (i.e. would lead to the dataset representing a different real-world object than before) then - instead of updating the existing dataset - a new dataset has to be created (with its own unique UUID). In the EPD context, this would be the case when a new EPD is issued for the same product, with a different reference year of the data.

Examples:

The company ACME, Inc. is represented by a contact dataset. When the address of the company changes, the address is updated in the contact dataset as well, and the version number of that dataset is (usually automatically) incremented. The same would apply if

the management would decide to change the organization's name to ACME International, Inc., because the contact dataset would still represent the same real-world object (the company).

A process dataset is representing the EPD "Aluminum profile" published in the year 2012 by the company ACME, Inc. After 5 years, since the validity of the EPD expires, the company has a new EPD generated for the same product, with up-to-date data from the current production process. Thus, a new process dataset with a new UUID has to be generated to represent the new EPD, as it (the 2017 EPD) is a different real-world object than the 2012 EPD. The UUID would also have to be newly generated if relevant material properties for calculating the LCA of a building (e.g. raw density) was changed.

(9) What is the importance of classification?

Hierarchical classifications are commonly used to offer users a way to navigate within a larger amount of data.

In the ILCD+EPD data format, an arbitrary number of classifications (from different classification systems) can be given for a single dataset.

In the future, classifications will be even less important, as ontology-based structures like the buildingSMART Data Dictionary and others can be used to find data.

(11) What's the meaning of "generic data uncertainty loads"?

The uncertainty loads for generic data are a concept used in the German ÖKOBAUDAT database in order to compensate the data incompleteness and imponderability of generic data. The amount of the uncertainty load depends on the estimated data quality of the data set and ranges from 10 to 30 percent.

Note: The 'uncertainty loads' are not to be confused with the uncertainty or variability of the LCA, e.g. in the case where an EPD is declared as an average environmental performance for a number of products!

(11) Why are the verification procedures for generic data not as strict as for product specific data?

There are several reasons why generic data cannot be treated the same way as EPD data:

- Generic data are usually not developed within an EPD programme.
- Generic data are surrogate data only - used in building assessment tools if no system specific data are available.
- The use of generic data shall not be augmented since manufacturer should be encouraged to present specific data.
- If the generation of generic data is too costly, nobody will elaborate them and consequently surrogate data will be missing.

Therefore 'WG InData' accepts also internally verified generic data as long as the verifier is independent from the generation of the data set. It is expected that quality levels for generic data are going to be defined within the context of PEF requirements. These will be integrated later in the ILCD+EPD format.

(18) Explain reference flow concept

In the LCA world, each activity is modelled as a process. Each process has one or multiple reference products, which are modelled as the reference flow(s) that are flowing out of the process. Hence, when a process dataset is used to represent the data from an EPD, this process dataset is always accompanied by a flow dataset which represents the actual product (reference product) of the EPD. Hence it is called the product flow dataset.

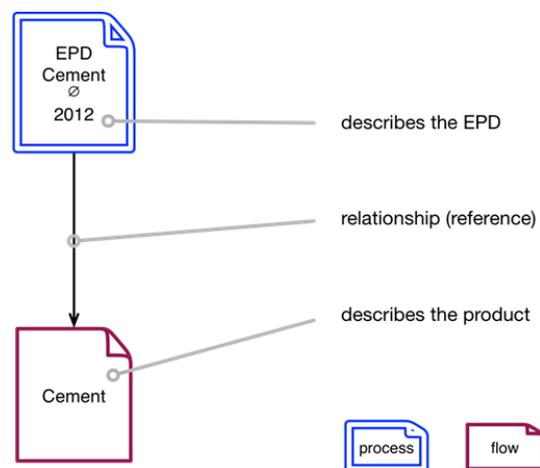


Figure 1: For describing an EPD, tuple consisting of a process dataset and a flow dataset is used

Properties of the product such as name, classification, declared unit or physical properties as raw density are declared in the product flow dataset.

If there are multiple process datasets representing different EPDs that refer to the same product, they can all reference the same product flow dataset.

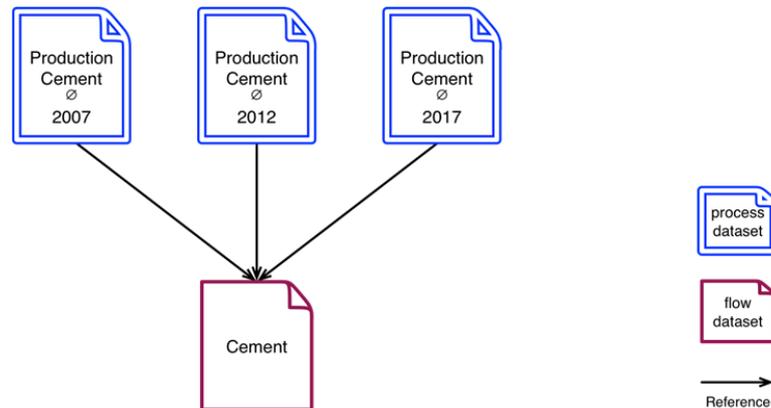


Figure 2: References to the product flow dataset

(13) What is the purpose of the "copyright" field?

This indicates whether a dataset is the intellectual property of its respective owner or, in contrast, is in the public domain, which means it can be copied, altered, sold etc. without permission by anyone. Usually, this field will be "yes".

(7) Which information shall be given as 'use advice for data set'?

In contrast to the data field 'technical purpose of product or process' this field is foreseen for specific methodological advice. Which methodological information does the user need in order to apply the data set properly in an LCA on building level? Which methodological information does he need in order to understand the values of the data set correctly (e.g. use of secondary materials)? Sometimes a link to appropriate combinable datasets for auxiliary products or for other modules of the life cycle can be helpful. If no specific use advice for data set is needful, a statement like 'no specific use advice for this data set' shall be given.

Examples:

The data set represents with high coverage the average production conditions and the induced environmental impacts for Germany. If specific data for the applied products are not available the use of the data set at hand is recommended.

Data set does not comprise end of life (C1-C4) of the product. Combinable datasets for calculation of the whole life cycle on the building level are e.g.:

- 'recycling of mineral waste [kg]' (C1-C4).

Data set includes the transportation from Germany (Hamburg) to Norway (Oslo). If the data set is used for other locations module A4 should be altered according to the actual transportation scenario.

The percentage of recycled aluminum scrap (classified as 'secondary product') in the product amounts to 28 %.

- (25) What is meant by "background system" in the (currently used) data field "technology description including background systems"?

Comment: in next version this will be modified to (25) "Technology description" and new field "modeling and calculation rules including background systems"

In the first instance, LCA data are based on primary data ('foreground system'). For construction products these are mostly measured, calculated or estimated data from the manufacturing process. In order to assess the upstream processes (e.g. manufacturing of pre-products) and the downstream processes (e.g. construction process) secondary data from background data bases or reports have to be used in most cases since no primary data are available. These processes which cannot be influenced directly form the so-called 'background system'.

- (25) What information shall be given in the (currently used) field "technology description including background systems"?

Comment: in next version this will be modified to (25) "Technology description" and new field "modeling and calculation rules including background systems"

The technology description shall give technological based information on the product over all life cycle stages which are considered in the representing data set. The information shall be concentrated on the main technological aspects. Which information is necessary in order to make the user understand the background of the LCA information in the data set?

Technical description may include e.g.:

- if reasonable, one or two sentences to describe the product;
- declaration of the main product components and or materials;
- short description of the manufacturing process with focus on product specific information which are relevant to understand the data set rather than general literature on the product group;

- information on pre-products or raw materials if reasonable;
- description of the construction process stage, use stage and end-of life stages.

Description of modeling and calculation rules including background systems may include:

- How is the dataset modelled (cut-off criteria, allocations, etc.)?
- Which is the source of the data (e.g. literature, marked average, average by sales numbers, other sources)?
- How strong can variations in the results be?
- What are the system boundaries (these can differ from EPDs)?
- Reference year of raw data
- If updated; what is updated (energetic pre-chains, technology and processes); when was the update?

Examples:

MAXI cellulose insulation materials are thermal insulation elements manufactured by recycling newspaper for thermal and sound insulation in building construction applications. The products are made from secondary-material waste paper. ISOCELL cellulose fibre is impregnated with mineral salts to protect it from fire. Manufacturing process and other life cycle stages: see also attached flow diagram.

The data set for aerated concrete at hand conforms to the products on the German market. Aerated concrete are produced in standardised industrial processes (see also diagram for aerated concrete production).

Background system: Electricity is modelled according to the German specific situation. The thermal energy and process steam are produced at heat plants. All relevant and known transport processes are included.

(8) What is the ‘technical purpose of a product or a process’

For construction products the technical purpose is its application in the building. Thus, here the main fields of application shall be stated. Also restriction in the use of the product can be given. You are welcome to give a link to the appropriate product standards.

For other inputs like upstream products (e.g. plasticizer) or processes (e.g. digging) other specifications of the technical purpose will match.

Examples:

MAXI OSB panels are applied as structural boards for walls and roofs in structural as well as in interior work. They are also fit to use as lay plates in flooring construction. Besides, they can be used for racks, frameworks, packages or concrete formwork.

MAXI cellulose fiber insulation material is used in thermal and sound insulation applications, including solid wood walls, timber frame walls, roof slopes and mezzanine floors, and for many other purposes. Cellulose fiber insulation is used for applications where vertical or horizontal cavities are completely filled by blowing in non-loadable insulating material, or where it is used to cover horizontal, arched or moderately pitched ($\leq 10^\circ$) areas.

Main fields of application for the MAXI EPS products are the following types of application acc. to DIN 4108-10.

- Basement ceiling - DI;*
- Intermediate ceiling - DEO, DES;*
- Topmost intermediate ceiling - DEO, DES*

This technical quality bulk chemical is used for large scale synthesis in chemical industry.

This truck is used only for long-distance transport of liquid bulk chemicals.