FAQS ABOUT EPDS

ENVIRONMENTAL PRODUCT DECLARATIONS

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F = FREQUENTLY

A = ASKED

Q = QUESTIONS

PLEASE NOTE: Clicking a chapter will take you to the respective text. Clicking the WÜRTH logo will take you back to the table of contents.

Frequently asked questions about EPDs

1.1 What is an EPD?

An EPD (Environmental Product Declaration) is a multi-page document that considers the environmental impact of construction products over their entire life cycle. This data covers (as far as possible) all the effects that the product can have on its environment.

1.2 What is a PCR?

PCRs or (Product Category Rules) serve as the basis for producing an EPD. PCRs are the combination of specific rules, requirements or guidelines used to create an EPD. DIN EN ISO 14025 and DIN EN 15804 provide the basis for creating the PCR.

1.3 What is the EN 15804 standard?

The standard defines the core product category rules for Type III environmental declarations for any construction product and construction service.

1.4 What does ISO 14025 cover?

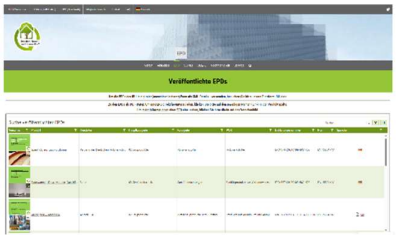
DIN EN ISO 14025 specifies how Type III environmental product declarations are to be prepared, and establishes the use of the DIN EN ISO 14040 series of standards.

1.5 What is in an EPD?

An EPD consists of six sections:

1. General information
    - Declaration number, reference quantity and limit of validity
2. Product data
    - Product description, product application, technical data, application limits, method of delivery, constituents, manufacture, environment and health during production, product application, packaging, utilization properties, environment and health during application, lifetime, specific impacts, recycling, landfill, additional comments
3. Life cycle analysis: Calculation rules
4. Life cycle analysis: Scenarios and supplementary technical information
    - Information on the life cycle of the structure, transportation and application parameters
5. Life cycle analysis: Results of the environmental impact assessment
    - Results constitute the core of the EPD

1.6 Where can I find published EPDs?



Other EPDs can be found on the website of the IBU (Institut für Bauen und Umwelt e.V.)
https://ibu-epd.com/ibu-data-start/
or on the "eco-platform" website
(https://www.eco-platform.org/epd-data.html).

In addition, our two EPDs for all steel and stainless steel screws and bolts can be downloaded directly via these two QR codes or the download links:

Steel
Download

Stainless steel
Download

1.7 What is the EPD data used for?

EPDs are the data basis used for the ecological pillars of sustainability assessment in building certification systems. In the DGNB system and in the Assessment System for Sustainable Building (BNB), the EPDs are applicable for individual building products, in order to calculate the building's life cycle assessment. With LEED, credit points may be earned through the existence of EPDs; the situation is similar with BREEAM.
Furthermore, through the data collection and evaluation that takes place in the process of creating an EPD, manufacturers are able to gain insights into their own processes. Through the life cycle analysis, the construction product can be checked for ecological and economic hotspots, and can be subsequently optimized. This not only conserves resources and reduces the environmental impact of the product, but also results in financial savings through increased process efficiency.
The EPD is therefore not only an information document for planners, architects and auditors, but also a valuable tool for manufacturers in optimizing their own products and processes.

In addition, the revision of the EU Construction Products Regulation (CPR) will introduce mandatory environmental impact information for the first construction products from the end of 2025. This data can be taken directly from EPDs, which further increases their importance for manufacturers and the construction industry as a whole.

1.8 What important information can be found in an EPD?

The key content of the EPD is the results of the life cycle assessment. These are presented in table format. Horizontally, the life cycle of the product is divided into phases: manufacture, use, disposal and, if applicable, credits beyond the system boundary. Vertically, you can see the many different potential environmental impacts such as climate change, acidification and eutrophication. Similar tables show the use of resources and some other important parameters. A distinction is made between renewable and non-renewable materials, water, energy sources and raw materials.

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

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
X	X	X	X	X	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg Stainless steel fasteners with thread

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	6.88E+00	6.69E-03	1.2E-01	4.26E-02	4.34E-03	0	0	-4.31E+00
GWP-fossil	kg CO_2 eq	6.94E+00	6.61E-03	4.5E-02	4.26E-02	4.29E-03	0	0	-4.32E+00
GWP-biogenic	kg CO_2 eq	-7.44E-02	1.95E-05	7.55E-02	2.12E-05	1.27E-05	0	0	1.98E-02
GWP-luluc	kg CO_2 eq	1.52E-02	6.13E-05	4.29E-06	3.9E-06	3.98E-05	0	0	-1.14E-02
ODP	kg CFC11 eq	6.76E-12	8.61E-16	4.28E-13	4.19E-13	5.59E-16	0	0	-1.76E-13
AP	mol H^+ eq	3.92E-02	9.86E-06	8.37E-05	6.49E-05	6.4E-06	0	0	-2.63E-02
EP-freshwater	kg P eq	1.43E-05	2.42E-08	4.48E-08	4.21E-08	1.57E-08	0	0	-6.21E-06
EP-marine	kg N eq	6.88E-03	3.6E-06	2.52E-05	1.83E-05	2.34E-06	0	0	-3.78E-03
EP-terrestrial	mol N eq	7.46E-02	4.25E-05	2.79E-04	1.93E-04	2.76E-05	0	0	-4.09E-02
POCP	kg NMVOC eq	1.99E-02	8.66E-06	6.87E-05	5.06E-05	5.62E-06	0	0	-1.15E-02
ADPE	kg Sb eq	2.34E-04	4.36E-10	2.14E-09	2.06E-09	2.83E-10	0	0	-6.3E-06
ADPF	MJ	7.45E+01	9.01E-02	9.58E-01	9.36E-01	5.85E-02	0	0	-5.27E+01
WDP	m^3 world eq deprived	2.26E+00	7.99E-05	1.21E-02	3.58E-03	5.19E-05	0	0	-1.75E+00

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; WDP = Water (user) deprivation potential)

Figure 1 Example life cycle analysis results in an EPD

An IBU EPD also provides some additional information in another section. The information provided is specific to each product group.

1.9 What different types of EPDs are there?

Specific EPD:

This EPD is based on the real, actually recorded environmental impacts of a specific product or product variant. It is the most accurate, as it is based on a company's actual production processes and data.

Average EPD:

This EPD presents the average environmental impact of a product or product group, based on data collected from several manufacturers within an industry or specific geographic area. It provides a good overview, but is less accurate than the specific EPD.

Representative EPD:

A representative EPD describes the environmental impact of a product that is considered "representative" of the majority of products in a particular market segment. It is often based on data from groups of manufacturers or from a broader data base, and provides an approximation of the environmental impact of a product without a specific survey.

1.10 What are the benefits of an EPD?

Architects and designers: EPDs form an essential basis for calculating the life cycle assessment of buildings. These calculations are important for the certification of sustainable buildings. Today, environmental criteria are an essential part of the design of sustainable buildings.

Tenders: Many construction projects and tenders now call for the submission of EPDs as part of their requirements. Many environmental aspects are taken into account when selecting construction products.
Manufacturers: EPDs enable manufacturers of construction products to provide reliable and comparable information on the environmental impact of their products.

1.11 What are the benefits of EPDs for architects and public/private clients?

An EPD contains verified information based on a uniform standard. This enables anyone who wants to construct a building to prepare a systematic life cycle assessment for the entire building and thus identify the best option from an ecological point of view. Compared to generic, unspecific information, EPDs have significantly fewer data uncertainties, which is also recognized by building assessment systems.

If an EPD is available for a product, this EPD can be taken into account when calculating a building's footprint.

1.12 Can products be compared with each other based on their EPDs?

It depends! It has always been a challenge to compare the environmental impacts of different products. This is because numerous factors can significantly influence the result of a life cycle assessment. To ensure better comparability, product category rules (PCR) are defined for various product groups. These establish uniform calculation rules and ensure that environmental information is collected and presented according to standardized criteria.

When comparing two products, it is necessary to check whether the functional unit is identical and the technical properties are comparable. In addition, the so-called "scope" information from the life cycle assessment should be used to assess whether the same life cycle phases were taken into account and whether the geographical representativeness is the same. You should also check what type of EPD it is: a specific EPD, an average EPD or a representative EPD. Only if these aspects are known can the environmental impact of the products be meaningfully compared.

1.13 What is the difference between certification and verification, and why aren't EPDs certificates?

Certificates are quality labels, quality marks or quality seals that make a statement about the quality of the product. A certificate is therefore an evaluation of a product. An EPD, by contrast, does not evaluate the product. It provides a quantitative statement about the properties and environmental impact of the product. As such, no evaluative statement is made.

1.14 How is an EPD produced?

Basically, the creation of an EPD can be broken down into three steps.

1. Formulation of product category rules (where not yet available)
2. Preparation of the EPD (carry out the life cycle assessment, see section 1.16)
3. Independent verification and publication

The key aspect in "producing the EPD" is the recording of all environmentally relevant inputs and outputs through the product's life cycle. Currently this is done in cooperation with our suppliers/manufacturers.

1.15 How do I find the right EPD for a product?

The appropriate EPDs are assigned to each product in the Würth Online Shop. You can also view all published EPDs on the website of the IBU (Institut für Bauen und Umwelt e.V.) This requires that it is an EPD associated with the IBU program operator.

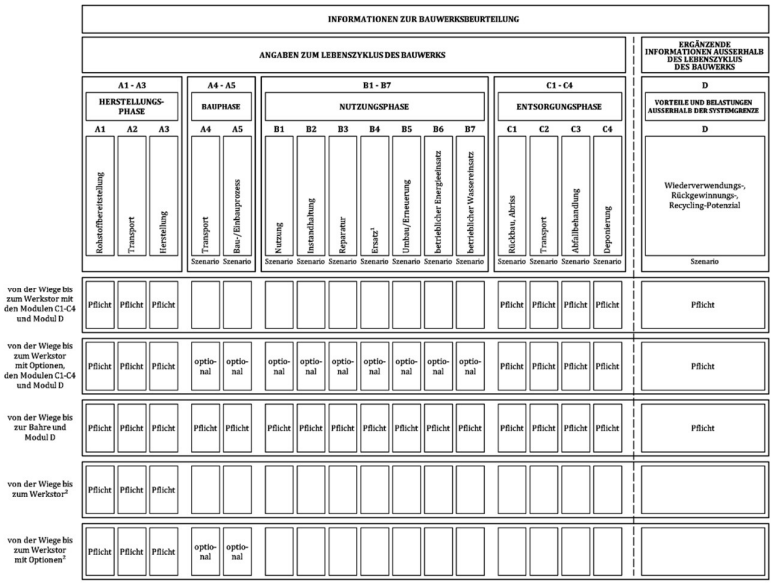
1.16 What is a life cycle assessment?

A life cycle assessment is a systematic analysis of the potential environmental impacts and energy footprints of products during their entire life cycle. This includes all environmental impacts that occur during the provision of raw materials and energy, the manufacture of products, their use, and their disposal or recycling.

1.17 What is the difference between an "Ökobilanz" and a "Lebenszyklusanalyse"?

There is no difference between an "Ökobilanz" and a "Lebenszyklusanalyse". The terms "Umweltbilanz" and "Life Cycle Assessment" (LCA) are also used [in German]. All of these terms refer to an analysis of a product's impact on the environment.

1.18 What are the life cycle stages for EPDs?



In each EPD, the system boundaries of the individual stages are defined and all stages are considered.

There are five stages: production, construction, use, disposal, recovery/recycling. These five stages are identified by letters and often contain a number of subfactors.
The life cycle phases of an EPD include the following:

- The production stage (A1-A3) shows the impacts of extraction and upstream production, transportation to the factory, and manufacturing. Basically, this is concerned with what happens in the supply chain "from cradle to gate".
- The construction stage (A4-A5) begins when the material leaves the factory and is brought to the place where it will be installed. It shows the impact of transportation to the site and the construction process on site.
- The use stage (B1-B7) covers the environmental impact over the period in which the product is used. This includes emissions during use, maintenance, expected repairs or replacements, and operational energy and water use (if applicable).
- The end-of-life stage (C1-C4) covers the impacts of deconstruction or demolition, transportation to waste processing or disposal, and any recovery or disposal operations.
- The EPD also contains information on the reuse, recovery and recycling potential (D).

1.19 What value does an EPD add?

EPDs represent objectivity, transparency and credibility. They also contribute to sustainable construction and strengthen the market position of construction product manufacturers. Furthermore, EPDs promote Würth's sustainability strategy.

EPDs provide the basis for a comprehensive life cycle assessment of a building. This allows designers and architects to compare construction materials and improve the ecological sustainability of their building, from the planning stage onward. Clients and construction companies can use the EPDs to optimally fulfill specifications in tenders, for example.

In addition, manufacturers gain a good insight into the sustainability of their products and can use the calculated data to make production processes, the product itself, packaging or transportation more sustainable and environmentally friendly. At the same time, EPDs serve as a marketing tool for manufacturers. After all, the demand for sustainable buildings is constantly increasing, and with it so too is the demand for sustainable construction products.

1.20 Are EPDs also used for assessment systems?

Yes, for example for the assessment system of the German Sustainable Building Council (DGNB) and the Assessment System for Sustainable Building (BNB). These systems require a life cycle assessment of the building. If generic data is used here, a not inconsiderable "safety margin" is applied. EPDs can be used to avoid the application of safety margins which lead to poorer results. Although a life cycle assessment is not yet mandatory for the Leadership in Energy and Environmental Design (LEED) building assessment, a point is awarded under this system if EPDs are available for a certain number of permanently installed products. This one point often determines whether a higher certification level is achieved or not.

1.21 What is Würth's interest in having an EPD for products?

Würth has an interest because EPDs are already required for public buildings and will be favored in the future. In addition, the Construction Products Regulation already stipulates the sustainable use of natural resources.
So far, manufacturers are not required (by law) to provide EPDs. However, the market itself is increasingly regulating the use of EPDs in various applications.

Furthermore, the European Construction Products Regulation was revised in 2024. From the end of 2025, for an initial subset of construction products, this will require the environmental impact of the construction product to be included in the product performance certificate.

1.22 What is the role of the IBU (Institut für Bauen und Umwelt e.V.)?

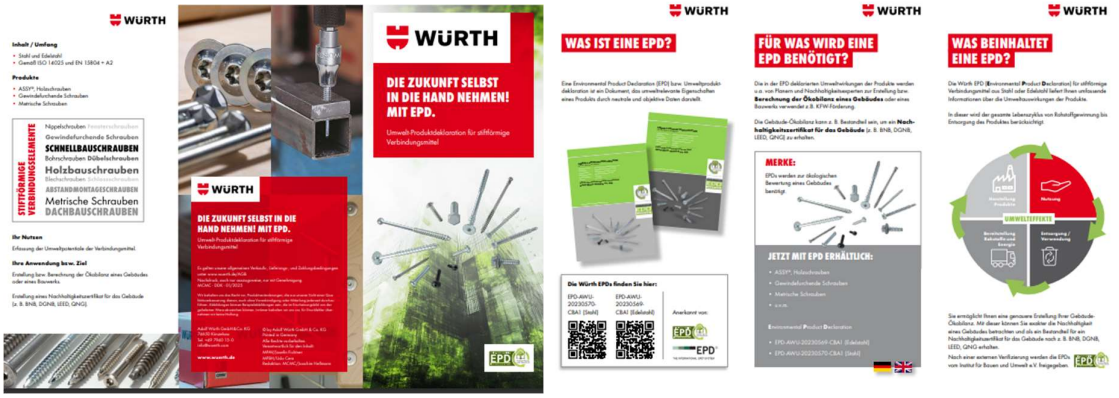
The Institut Bauen und Umwelt e.V. (IBU) is a German association that operates a program for issuing Type III environmental declarations based on ISO 14025 and EN 15804 for construction materials.
One of the IBU's most important tasks is to ensure the consistently high quality and comparability of EPDs. A core area of its work is the implementation of international standards in specific instructions for the creation of EPDs and in clear guidelines for various groups of construction products. The IBU also ensures that EPDs are published online and reviewed by independent experts before publication. In addition, the IBU team provides information and support to construction product manufacturers, answers all questions relating to EPD creation, and facilitates the entire process.
The IBU participates in various bodies and networks to promote sustainable development, and has set itself the goal of raising awareness of sustainable construction both in the construction industry and among the general public.

1.23 Who is liable for the EPD?

Environmental product declarations have an authoritative, universally valid basis; they are drawn up by experts and independently verified – but the manufacturer (in this case Würth) is still responsible for the EPDs.

1.24 Where can I find further documents and information about EPDs?

An information flyer for the EPDs for our pin-shaped fasteners can be downloaded from our MAM image database via the ID: 645157027.



Further documents can be found on the website of the Institut für Bauen und Umwelt e.V. (IBU).
If you have any further questions, please contact LCA@wuerth.com. Here you can also request access to the current temporary document storage location.

In future, EPDs will be linked in the Würth Shop directly on the product and on the CO_2 Würth landing page, together with other documents and related information.

1.25 Where can I see on the packaging that there is an EPD for this product?

The product label shows that an EPD exists for this product. The logo is printed in black and white.

1.26 What information about the EPD may I provide to customers?

You may provide the customer with the EPD and refer them to the documents in the online shop and on the Würth website. If appropriate, you can also point them to training courses offered by our Würth Academy.

1.27 How can I find an EPD in the online shop?

EPDs are assigned to the respective product and are available for download under the "Documents" tab.

1.28 How can I find an EPD on the Würth website?

You can view and download the EPD on the Würth landing page for EPDs/Sustainability.

1.29 What does the Würth EPD cover?

The EPD for "threaded pin-shaped fasteners" covers all pin-shaped fasteners (steel or stainless steel) with shaped heads and a thread (metric thread, self-tapping screw thread, wood thread).
The EPD considers the entire life cycle of the fastener, i.e. the period from production to disposal (also known as "cradle-to-grave").

The environmental assessment is based on the worst-case scenario, i.e. based on forming/manufacturing a wood screw thread. This means that the environmental impact of the

screw with the greatest potential impact is considered representative of all other, possibly more environmentally friendly variants. This ensures that environmental impacts are not distorted and that greenwashing is avoided.

The dominant influencing factor taken into account is steel production at country level (as at 2020). The production parameters (energy consumption, production resources, etc.) of the SWG manufacturing plant are used as a basis for all production facilities. Factors that have a share of less than 1% are ignored.