

Environmental Product Declaration

of multiple products, based on the average results of the product group.

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

MPT-Support system

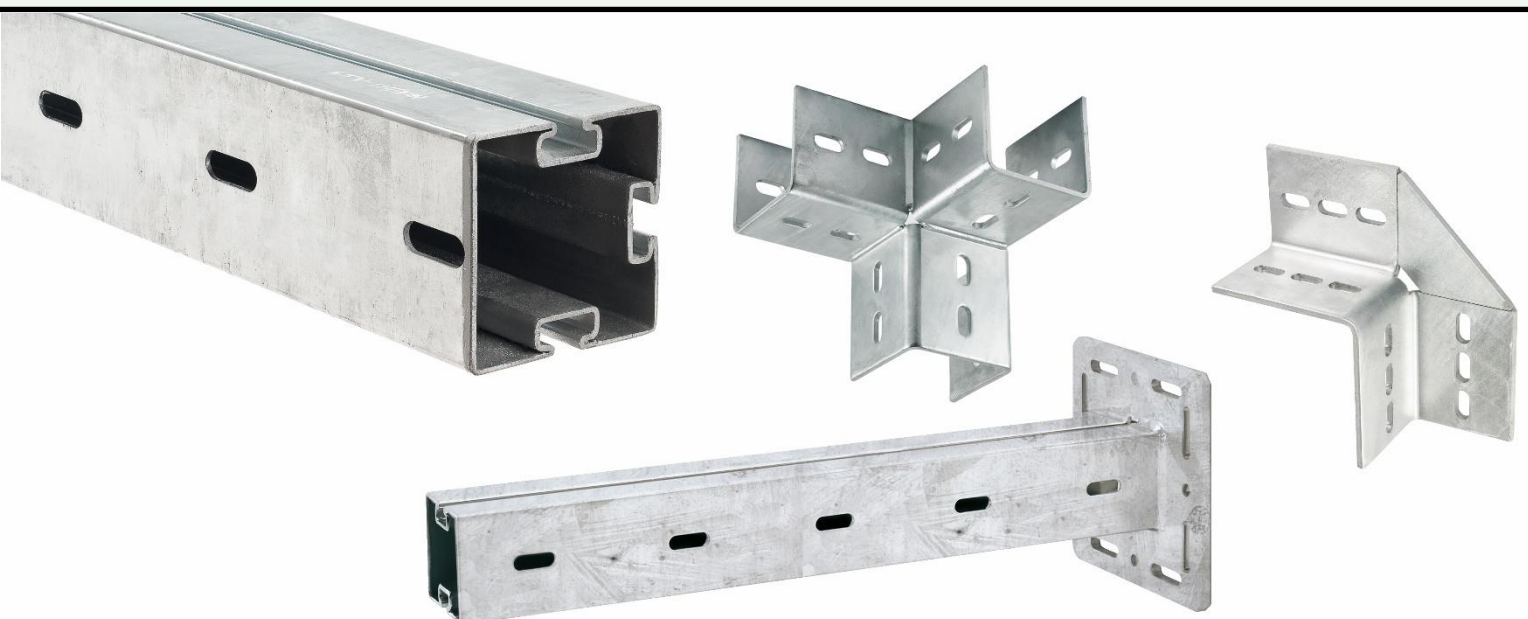
from

MÜPRO Services GmbH

MÜPRO

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products from a company
EPD registration number:	EPD-IES-0032332:001
Version date:	2026-07-10
Validity date:	2031-07-10

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



Products included in the EPD:

• MPT System Q50-2,5 • MPT System Q80-2,0 • MPT System Q100-2,5 • MPT System Q100-3,5 • MPT System Q150-2,5

GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products version 2.0.1 and UN CPC code: 412
PCR review was conducted by: The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com .
Chair of the PCR review: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/support .
c-PCR, if applicable: <i>not applicable</i>

LCA Accountability
LCA accountability: Franziska Heinz, DEKRA Assurance Services GmbH, Handwerkstraße 15, 70565 Stuttgart, Germany

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: Dr-Ing. Nikolay Minkov from Greentability Ltd.
Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025

INFORMATION ABOUT EPD OWNER

Owner of the EPD: MÜPRO Services GmbH

Address: Borsigstraße 14, DE-65205 Wiesbaden, Germany

Contact: Sabine Pohl, Mail: sabine.pohl@muepro.de

Address and contact information of the LCA practitioner commissioned by the EPD owner: DEKRA Assurance Services GmbH, Handwerkstraße 15, 70565 Stuttgart, Germany

Description of the organisation:

MÜPRO Services GmbH is an innovative company specializing in fixing technology, vibration control and fire protection technology with over 60 years of experience. Headquartered in Wiesbaden, Germany, and with a global network, MÜPRO Services GmbH offers high-quality products and services tailored to the needs of the construction and industrial sectors. The company is known for its customer-oriented approach, providing not only product delivery but also technical consulting, project management, and customized product solutions. With a strong commitment to quality and a global presence, MÜPRO Services GmbH ensures that its solutions are implemented efficiently and reliably worldwide. MÜPRO Services GmbH has built a reputation for innovation, reliability, and delivering advanced technical solutions across diverse industries.

For more information see <https://www.muepro.de/>.

Product-related or management system-related certifications:

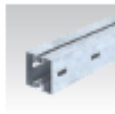
MÜPRO Services GmbH is ISO 9001 certified

PRODUCT INFORMATION

Product name: MPT-Support system

Product identification: The declared unit for this EPD is 1 kg of an average MPT-support system. The MPT-support system is composed of the components listed in the following figure.

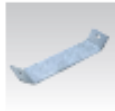
The MPT-support profiles are certified according to EN 1090-1.



MPT-Support profiles



MPT-Consoles



MPT-Brackets



MPT-Cross channel connectors



MPT-Mounting angles



MPT-Angle connectors



MPT-VARIO joints



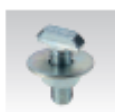
MPT-Vario Foot



MPT-Cantilever bracket



MPT-3D-Connectors



MPT-Hammer head bolts



MPT-Hexagon head bolts



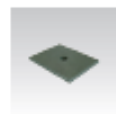
MPT-Protection caps



MPT-Connection plates



MPT-Connection plates



MPT-Retaining plate



MPT-Support profile connectors



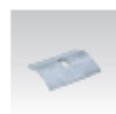
MPT-Saddle supports



MPT-Guide



MPT-Threaded brackets



MPT-Steel beam adaptor plates



MPT-Girder cleats



MPT-Base plate



MPT-Mounting base

UN CPC code: 412 - Products of iron or steel

Product description:

The MPT-support system is designed to enable flexible and stable installation of structures and components. In addition, a special clamping system, allows connections to steel constructions without drilling or welding.

The product fulfills following functions:

- Supports and secures installations such as pipelines, cable trays, and technical equipment
- Provides stable load-bearing structures for heavy-duty applications in industrial and building technology
- Offers flexible installation through a modular system with versatile, combinable components
- Enables fast assembly thanks to continuous grooves and compatible connection elements
- Allows connection to steel constructions without drilling or welding using a special clamping system
- Adapts to different project requirements with various materials and surface finishes
- Suitable for indoor and outdoor use due to corrosion-resistant coatings, such as hot-dip galvanization

The MPT system consists of several pre-manufactured components, with steel profiles representing the largest share. All components are produced by external suppliers, while the final manual assembly and packaging are carried out by MÜPRO.

More information about the technical specifications can be found here: <https://www.muepro.de/>

Name and location of production site(s): Wiesbaden, Germany

CONTENT DECLARATION

Description of the main components and/or materials:

The product consists of mostly of zinc coated, unalloyed steel with small fractions of polypropylene and polyethylene. The post-consumer recycled material is not possible to collect based on primary data, therefore the share of recycled content from Ecoinvent was used as a reasonable assumption.

The content declaration represents the average product composition of the MPT Support System product group covered by this EPD.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Zinc coated steel	0.995	20.08*	0	0
Uncoated steel	0.001	0.02*	0	0
Polypropylene	0.001	0	0	0
Polyethylene	0.003	0	0	0
TOTAL	1.00	20.10	0	0

*The value is based on the secondary material share from the dataset, as the exact post-consumer share is not specified.

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Cardboard	0.00644	0.6	2.68E-03
Wooden blocks	0.00205	0.2	8.56E-05
Steel strips	0.0002	0.02	0
TOTAL	0.0087	0.87	2.77E-03

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO₂.

Information on the environmental and hazardous/toxic properties of a substances contained in the product:

None of the substances used during production are classified as persistent, bioaccumulative and toxic (PBT) or substances of very high concern (SVHC) according to Regulation No. 1907/2006 Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	Mass-% per product or declared unit
N/A	N/A	N/A	N/A

LCA INFORMATION

Declared unit:

The declared unit for this EPD is 1 kg of MPT-support system

The environmental impacts are determined for an average product. The EPD does depict multiple products of the same product group which are available in different sizes and have a different material composition. For the calculation of the average the production volumes of the included products are considered.

Reference service life: N/A

Time representativeness: The reference year of the study is the calendar year 2025, covering 12 months of data.

Geographical scope: The geographical scope is Europe.

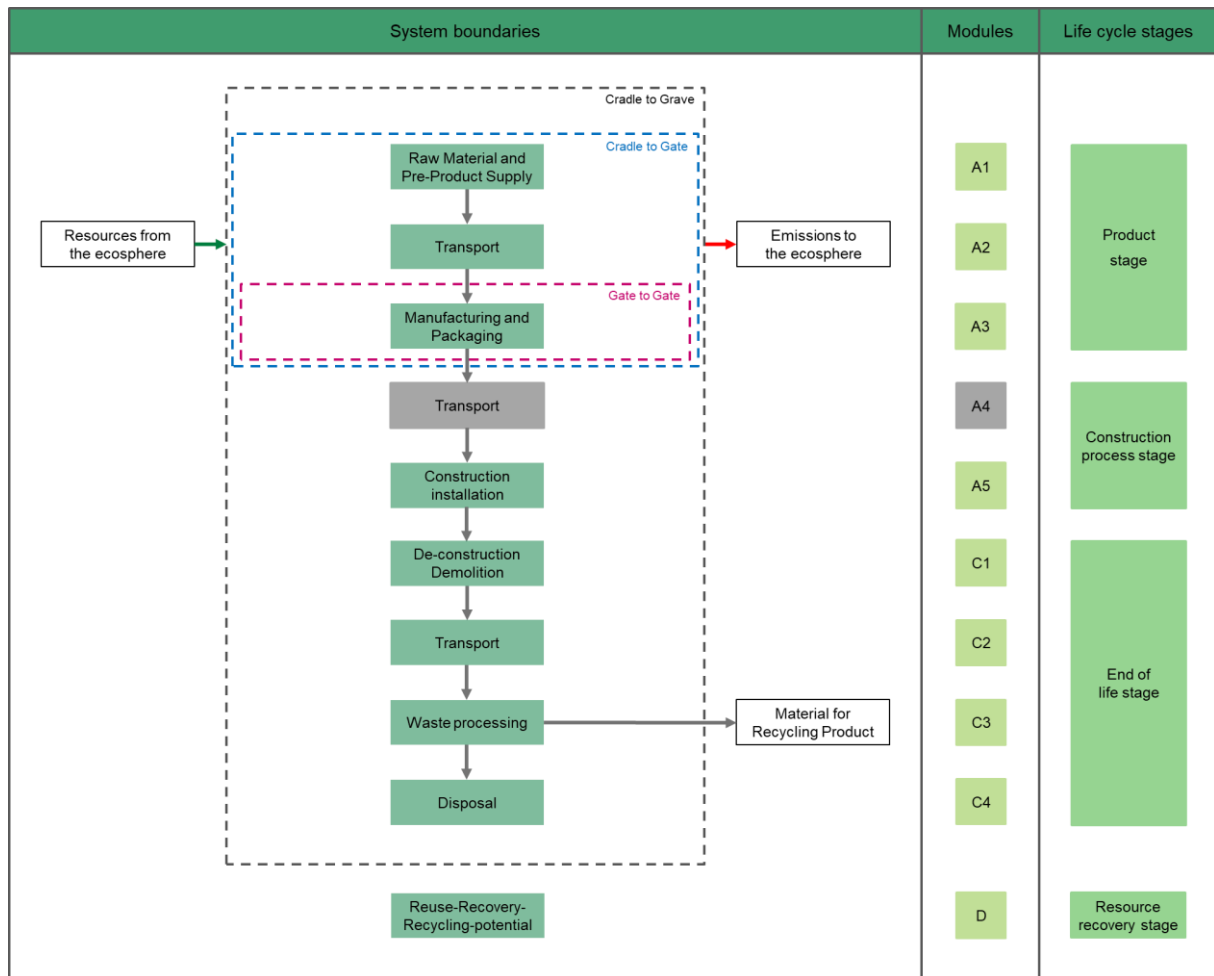
Database(s) and LCA software used: The database used is ecoinvent v3.11 (Wernet et al. 2016 and ecoinvent 2024) with the EN15804 reference package based on Environmental Footprint (EF) 3.1. The LCA software used is Umberto 11.

EPD/LCA Tool used: N/A

Description of system boundaries:

The system boundary of this study is cradle-to-gate with options, modules C1-C4, module D and optional modules (Type b) in the PCR). This EPD includes the modules raw material supply, transport, manufacturing (A1-A3; product stage), the installation (A5), end of life (EOL; C) and benefits and loads beyond the system boundary (D). The study omits the modules distribution (A4) and use stage (B1-B7). The distribution and use stage (modules A4 and B) are not included because they are highly dependent on the particular application. In addition, the environmental impact of the use phase is considered negligible because it is a passive product that is not removed over an extended period.

Process flow diagram:



Product stage

The manufacturing of the MPT-support system takes place at the facility in Wiesbaden. The manufacturing process includes the following steps:

- Manual assembly of the pre-products
- Packaging

The modules A1-A3 include the production of raw and auxiliary materials that enter the production processes, as detailed below:

A1: Raw material supply

- Module A1 includes the extraction and processing of raw materials (unalloyed steel (uncoated and zinc coated), polypropylene, polyethylene), the transport of raw materials to the pre-product manufacturer and the manufacturing of the pre-product (steel profiles, steel consoles and steel or plastic accessories) that serves as input for the manufacturing process taking place at the production facility in Wiesbaden

A2: Transport to manufacturer

- Module A2 includes the transportation of the pre-product, i.e. steel profiles, steel consoles and steel or plastic accessories, to Wiesbaden. The components are delivered by multiple suppliers via truck. The distances for the different suppliers were provided by MÜPRO Services GmbH.

A3: Manufacturing

- The manufacturing stage includes all the process steps, material, and energy inputs to produce the MPT-support system. The packaging materials of pre-products are included in the life cycle assessment and their transport to a waste treatment facility is considered. End-of-life treatment of the packaging, such as recycling or thermal recovery, is accounted for according to applicable waste management practices. The assembled product is packaged prior to delivery using cardboard boxes, wooden blocks and steel strips, in order to ensure protection during transportation and handling.
- During the production no co-product is formed, and no allocation needs to be considered.

Construction process stage

Module A5 covers the manual installation of the product, with no material losses taken into account. The disposal of packaging and installation materials is assumed to occur via a waste treatment market mix.

End of life stage

C1: Demolition

- This module covers the dismantling of the product. It is assumed, that 100% of the product can be recovered during dismantling.

C2: Transport

- Module C2 covers the transport to the waste processing facility. The distance is estimated to be 77 km and the transport is assumed to be done via truck.

C3: Waste processing

- Waste processing contains the product flows that are leaving the system to either Module C4 or Module D. Module C3 also includes the transportation distance of 100 km (EN 17662) to a recycling facility. The material for recycling amounts to 100% of the steel as further described for module D.

C4: Disposal

- This module covers the disposal of the 0.4 % plastics of the product.

Resource recovery stage

In Module D credits were given for the avoidance of the primary production of steel and loads for the production process.

Estimation and assumptions:

The scrap amount for the steel is derived from the secondary material value provided in the datasets and amounts to 21% for unalloyed steel. The scrap enters the system boundary burden-free.

Cut-off rules:

The selection of the cut-off criteria is in line with the standard EN 15804:2012+A2:2019/AC:2021 and the PCR 2019:14 v2.0.1 and includes a minimum of 95% of the total inflows and 100% completeness.

For packaging of the pre-products, the waste treatment was considered, but the production was neglected unless it was already covered by the supplier EPD of the pre-product. The reusable steel box used for packaging was considered neglectable, because the amount is very small and the exact life span was difficult to accurately estimate.

Infrastructure/ capital goods were not available as primary data in the core processes. However, they are implicitly accounted for through generic datasets from the LCI database used to model upstream and downstream processes. These datasets include infrastructure and capital goods within their system boundaries, and disaggregating or removing this data is not feasible without disproportionate effort. The results of the environmental performance indicators were issued with a disclaimer.

Personnel-related processes, such as business travel and commuting to and from work, were excluded from the system boundaries in accordance with the PCR.

Allocation:

Steel leaving the product system in C3 is allocated as waste and categorized as “Material for Recycling”. To ensure consistency and avoid double counting a net scrap calculation is performed which accounts for both the input of recycled material and the output of recyclable scrap.

Electricity mix (A1-A3):

No direct electricity was used for module A3. The manual assembly and packaging require no or only negligible energy amounts that cannot be collected specifically.

Data quality:

The EPD is based on data collected by MÜPRO and their suppliers from one site over one year starting January 2025 and represents the current technology. The EPD is representative of the production of MPT-support systems at the production site in Wiesbaden, Germany. The distribution, installation and end-of-life stage of the EPD covers Europe, since the support systems are mostly sold in Europe. The composition varies between the configurations sold, causing up to 51 % variation from the mean for GWP per kg MPT-support system.

The EPD uses background data from the ecoinvent database v3.11, 2024. For one of the suppliers EPD data for the specific primary input materials was available. Since the supplier is confidential, the EPD registration number cannot be shared. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, Table E.2 is mostly very good for foreground data and good for background data. The relevant data assessed included no poor or very poor data.

Table 1 Additional information on processes contributing more than 10% to the GWP-GHG results of modules A1-A3

Process	Source Type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Production of pre-product	EPD Owner, EPD	EPD Owner, EPD (CONFIDENTIAL)	2023	Primary data (assumption: 10%), Representative secondary data	5.06 %
Energy used in manufacturing of pre-product	Supplier, Database	Supplier, Ecoinvent v3.11	2024	Primary data, Representative secondary data	0.09 %

Energy used in manufacturing of product	EPD Owner, Database	EPD Owner, Ecoinvent v3.11	2024	Primary data, Representative secondary data	0 %
Transportation of pre-products	EPD Owner, Database	EPD Owner, Ecoinvent v3.11	2024	Primary data, Representative secondary data	5.28 %

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories. The reported share of primary data is associated with uncertainty, as an EPD used as data source lack information on the share of primary data.

Averages and variability

The variation in GWP-GHG was computed in relation to the average product. The variation in the results is related to the share of the raw materials and pre-products used.

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	DE	-	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Primary data used	10.43 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-24.0 / +40.5 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	ND			-	-	-	-	-	-	-	-	-	-	-	-	-	-

ENVIRONMENTAL PERFORMANCE

LCA results of the product(s) - main environmental performance results

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

As module C is included in the EPD, the use of the results of modules A1-A3, and A5 is discouraged without considering the results of module C.

Mandatory impact category indicators according to EN 15804

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3.40E+00	1.52E-02	0.00E+00	1.16E-02	2.25E-02	9.51E-03	-1.29E+00
GWP-fossil	kg CO ₂ eq.	3.39E+00	3.16E-03	0.00E+00	1.16E-02	2.24E-02	9.51E-03	-1.29E+00
GWP-biogenic	kg CO ₂ eq.	1.07E-02	1.20E-02	0.00E+00	2.30E-06	4.74E-05	5.68E-07	2.01E-04
GWP-luluc	kg CO ₂ eq.	2.14E-03	1.30E-07	0.00E+00	4.03E-06	2.77E-05	7.47E-08	7.77E-05
ODP	kg CFC 11 eq.	2.70E-08	7.62E-12	0.00E+00	2.54E-10	2.97E-10	3.01E-12	-3.08E-09
AP	mol H ⁺ eq.	1.40E-02	3.80E-06	0.00E+00	5.33E-05	2.67E-04	2.17E-06	-4.19E-03
EP-freshwater	kg P eq.	7.54E-04	5.63E-07	0.00E+00	8.19E-07	1.49E-05	3.13E-08	-5.59E-04
EP-marine	kg N eq.	2.84E-03	1.38E-05	0.00E+00	2.09E-05	5.93E-05	1.24E-06	-1.05E-03
EP-terrestrial	mol N eq.	3.77E-02	1.67E-05	0.00E+00	2.28E-04	6.70E-04	1.05E-05	-1.15E-02
POCP	kg NMVOC eq.	1.00E-02	5.42E-06	0.00E+00	8.00E-05	1.99E-04	2.65E-06	-4.09E-03
ADP-minerals&metals*	kg Sb eq.	7.56E-05	9.35E-10	0.00E+00	3.88E-08	1.59E-06	6.64E-10	-8.20E-08
ADP-fossil*	MJ	3.99E+01	4.59E-03	0.00E+00	1.67E-01	3.02E-01	1.79E-03	-1.17E+01
WDP*	m ³	7.81E-01	3.53E-04	0.00E+00	9.24E-04	5.90E-03	6.32E-04	-1.64E-01
Acronyms	GWP-total = Total Global Warming Potential; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption							

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

The results of the impact categories abiotic depletion of minerals and metals, and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

Additional mandatory and voluntary impact category indicators

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	3.41E+00	5.01E-03	0.00E+00	1.16E-02	2.25E-02	9.51E-03	-1.29E+00

Resource use indicators

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
PERE	MJ	3.17E+00	7.99E-02	0.00E+00	2.78E-03	5.53E-02	9.18E-05	3.48E-01
PERM	MJ	7.98E-02	-7.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.25E+00	1.39E-04	0.00E+00	2.78E-03	5.53E-02	9.18E-05	3.48E-01
PENRE	MJ	4.01E+01	4.90E-03	0.00E+00	1.67E-01	3.02E-01	1.69E-01	-1.17E+01
PENRM	MJ	1.67E-01	-3.06E-04	0.00E+00	0.00E+00	0.00E+00	-1.67E-01	0.00E+00
PENRT	MJ	4.03E+01	4.59E-03	0.00E+00	1.67E-01	3.02E-01	2.24E-03	-1.17E+01
SM	kg	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	3.10E-02	3.82E-07	0.00E+00	2.14E-05	1.35E-04	1.07E-05	-1.94E-03
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water							

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Waste indicators

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.67E-01	2.96E-04	0.00E+00	2.41E-04	2.00E-03	1.47E-04	2.38E-02
Non-hazardous waste disposed	kg	6.22E+00	1.64E-02	0.00E+00	5.18E-03	7.85E-02	4.41E-03	-3.27E+00
Radioactive waste disposed	kg	1.16E-04	2.91E-09	0.00E+00	5.10E-08	6.65E-07	7.71E-10	1.69E-05

Output flow indicators

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.96E-01	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional LCA results (other environmental performance results) of the product(s)

Core environmental indicator variation A-C		
Indicator	Variation of best case compared to weighted average	Variation of worst case compared to weighted average
GWP-total	-23.6%	+39.9%
GWP-fossil	-23.1%	+38.4%
ODP	-40.2%	+146.0%
AP	-54.3%	+76.9%
EP-freshwater	-133.3%	+92.1%
EP- marine	-46.7%	+77.8%
EP-terrestrial	-66.2%	+105.7%
POCP	-39.8%	+83.1%
ADP-minerals&metals	-136.1%	+79.0%
ADP-fossil	-19.7%	+95.5%
WDP	-105.7%	+83.9%

The high deviations are caused by the plastic components that only make up a very small amount of the average product. The variation is therefore likely overestimated.

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative
Environmental Impact Indicators (EN 15804)	
GHG	Greenhouse gas
GWP	Global Warming Potential (kg CO ₂ eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO ₂ eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO ₂ eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO ₂ eq.)
GWP-total	Total Global Warming Potential (kg CO ₂ eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO ₂ eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H ⁺ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m ³)
Resource Use Indicators	
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERM	Use of renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (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 (m ³)
Waste Indicators	
HW	Hazardous Waste (disposed) (kg)
NHW	Non-Hazardous Waste (disposed) (kg)
RW	Radioactive Waste (disposed) (kg)
Output Flow Indicators	
CFR	Components for Reuse (kg)

MR	Material for Recycling (kg)
MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)
Lifecycle Stages / Modules	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential
Other Relevant Terms	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m ³	Cubic Meter
NMVOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO ₂ eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO ₂ eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared
GVW	Gross Vehicle Weight

REFERENCES

DIN EN 15804:2022-03, 2022. Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products; German version EN 15804:2012+A2:2019 + AC:2021. Berlin: s.n.

Environdec, 2025b. General Programme Instructions for the International EPD System, version 5.0.1, Stockholm: EPD International AB.

Environdec, 2025a. Product Category Rules (PCR) PCR 2019:14 Construction Products, version 2.0.1, Stockholm: EPD International AB.

ISO 14020:2022-12, 2022. Environmental statements and programmes for products - Principles and general requirements. Berlin: s.n.

ISO 14025:2006-07, 2006. Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025:2006); German and English version EN ISO 14025:2011. Berlin: s.n.

ISO 14040:2006-07, 2006. Environmental management - Life cycle assessment - Principles and framework. Berlin: s.n.

ISO 14044:2006-07, 2006. Environmental management - Life cycle assessment - Requirements and guidelines. Berlin: s.n.

ISO 45001:2018-03, 2018. Occupational health and safety management systems - Requirements with guidance for use. Berlin: s.n.

ISO 9001:2015-09, 2015. Quality management systems - Requirements. Berlin: s.n.

Wernet, G. et al., 2016. The ecoinvent database version 3 (part I): overview and methodology. The International Journal of Life Cycle Assessment, 21(9), p. 1218–1230.

Ecoinvent 2024. Ecoinvent version 3.11 database. Retrieved from <https://ecoinvent.org/ecoinvent-v3-11/>

Regulation No. 1907/2006 Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

VERSION HISTORY

Original Version of the EPD, 2026-07-10

