

# Environmental Product Declaration



In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

## ***Mechanical parking system (PL450)***

from

**WÖHR**



Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
EPD registration number:	S-P-05634
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*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*



## General information

### Programme information

<b>Programme:</b>	The International EPD® System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): Product category rules (PCR): PCR 2019:14 Construction Products. Version 1.1
PCR review was conducted by: The Technical Committee of the International EPD® System. See <a href="http://www.environdec.com/TC">www.environdec.com/TC</a> for a list of members. Review chair: Claudia A. Peña. The review panel may be contacted via the Secretariat <a href="mailto:info@environdec.com">info@environdec.com</a>
Independent third-party verification of the declaration and data, according to ISO 14025:2006:  <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: Susanne Jorre, <a href="mailto:Susanne.Jorre@de.tuv.com">Susanne.Jorre@de.tuv.com</a>  <i>In case of accredited certification bodies:</i> Accredited by: TÜV Rheinland Energy GmbH
Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier:  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

The verifier and the program operator have no responsibility for the legality of the product, with the technical support provided by WOEHR.

## Company information

Owner of the EPD: WÖHR Autoparksysteme GmbH  
Ölgrabenstr. 14  
71292 Friolzheim  
Germany

Contact: Ignacio Vinas Rausell, +49 7044 46 134, Fax +49 7044 46 367  
Ignacio.VinasRausell@woehr.de, www.woehr.de

Description of the organisation: WÖHR has been developing, producing and installing comfortable and space-saving parking systems for 60 years. Today, our family company offers the world's largest range of products for parking space solutions - from classic systems with two vehicles parked one above the other to large-scale projects with 1,000 or more parking spaces on automatic parking systems. Our technologically high-quality and reliable solutions are more in demand than ever before. Urbanization and the lack of building space in particular require intelligent parking space solutions that offer as many parking spaces as possible in the smallest of spaces and at the same time preserve the cityscape - densification of cities requires concentrated parking.

The core competencies of WÖHR therefore lie in customer-specific and project-related solutions for more sustainability in parking. Because the more compactly we develop our parking solutions, the more space can be left for public or green areas. Our sales network in more than 60 countries helps us to meet customer requirements quickly and reliably. WÖHR is your partner for intelligent, sustainable and economical parking solutions.

Product-related or management system-related certifications: WÖHR has implemented ISO 9001 and ISO 14001 management systems.

Name and location of production site(s): WÖHR Autoparksysteme GmbH  
Leonberger Str. 77  
71292 Friolzheim  
Germany

## Product information

Product name: PL450 Automized parking system.

Product identification: Mechanical parking system for two vehicles, compliant to EC Machinery Directive 2006/42/EC and DIN EN 14010.

Product description: The PL450 automized parking system is made of steel, considering the structure of the product as well as the two automatic movable steel platforms where the cars are parked at. The presented use of the product is to optimize the parking slots while using automized systems for 20 years.

The previous models feature an elevated platform for drainage of the water accumulating in the relative parking spaces, where the water drains down from the platform into drainage channels. The newly developed systems have done away with the elevation and have resolved the drainage issues by slightly sloping the platform.

The specific dimensions of the analysed product are the following ones:

- a. Parklift 450-180
- b. Platform Width 230 cm
- c. Height 330cm
- d. Pit Dept 180/175
- e. Vehicle height:
  - i. Upper Level 150 cm
  - ii. Lower Level 160cm

UN CPC code: 67430 (supporting services for road transport, parking lot services)

More information: [www.woehr.de](http://www.woehr.de)

## **LCA information**

Functional unit: one PL450 mechanical parking system used for 20 years

Reference service life: 20 years

Geography scope: Global

Time and technical representativeness: data from factory (primary data) is from 2019. The products are manufactured in the production plants in Germany listed previously. The amount used of raw materials (Stainless steel), as well as energy consumption, waste production, pollutant emissions and transport distance have been obtained from the manufacturing plants (primary data). Primary data has been obtained through a production of single automatized parking system over the total production of the company in Germany in 2019. The electricity used was from 2019 electricity consumption of WÖHR, using a 100% renewable energy mix consumption.

In terms of technical representativeness, the database has been updated in the last two years. All the technological data gathered is current and for most materials it is generally industry averages.

Database(s) and LCA software used: Secondary data on the impact per unit of matter or energy have been taken to determine emissions per kg of matter, kWh of energy or tkm transported. These data have been obtained from the Ecoinvent database version 3.5 and Simapro 9.2. The impact models used are those indicated in EN 15804:2012+A2:2019.

Data Quality: All the data complies with the EN 15804+A2 standards regarding geographical, technological and technical relevance.

Primary data is obtained from the manufacturing site for the period of the 2019 calendar year and it's representative of the product. The quality of the input data has been evaluated according to its technological, temporal and geographical coverage.

Generic data has been taken by impact per unit of matter or energy. These data have been obtained from Ecoinvent database, of recognized international prestige, in its version 3.6. Said database has been selected as the reference database because it coincides with the input flows of matter and energy on the following aspects:

- Technological equivalence: data has been derived from the same physical and chemical processes, or at least the same technological coverage.
- Limits to nature: data contains all the quantitative information necessary for the EPD®.
- Limits towards technical systems: the considered stages of the life cycle are equivalent.

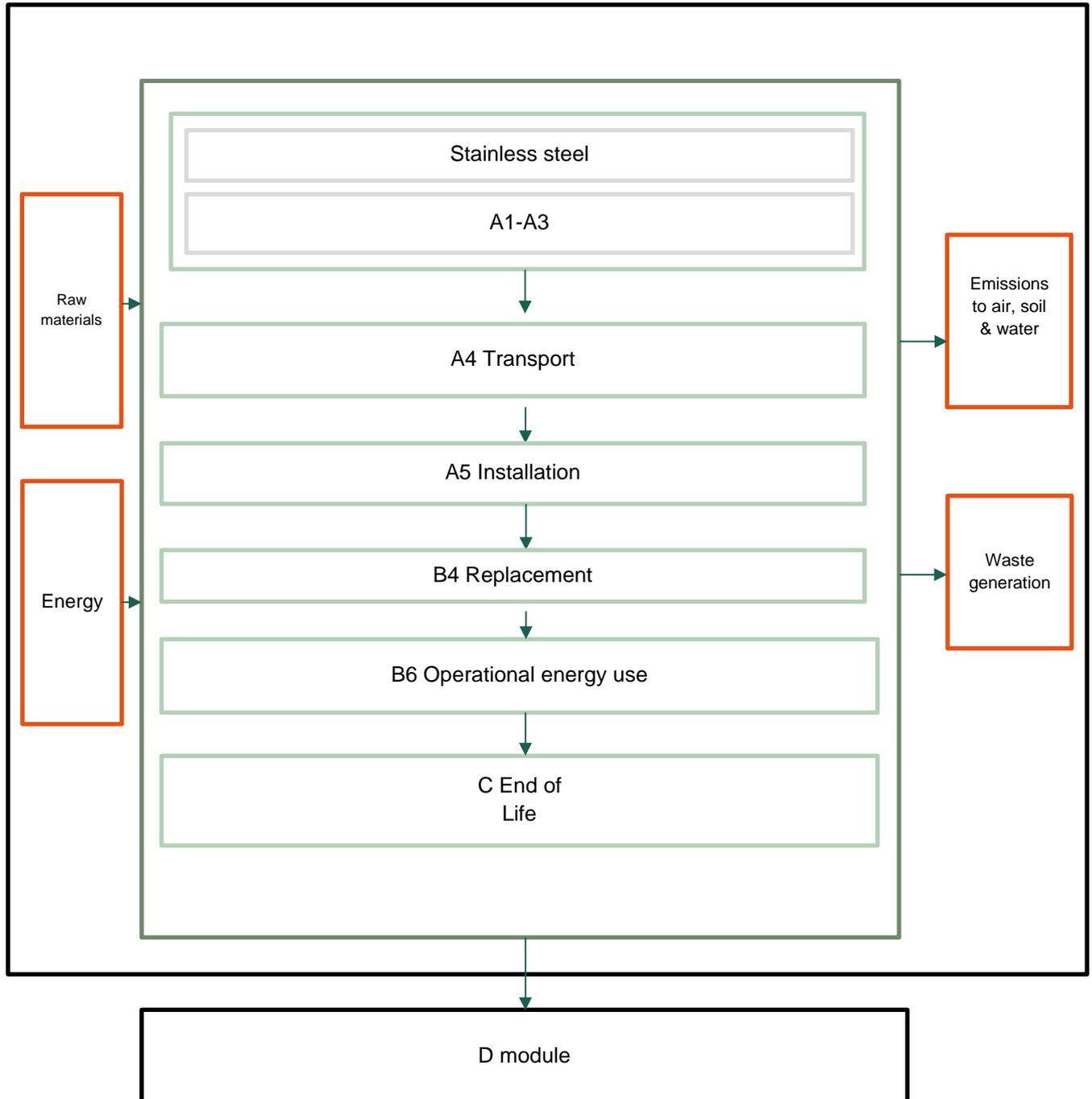
Technical support for the implementation of the EPD: Marcel Gómez Consultoría Ambiental.

- The modularity principle, as well as the polluter-payer principle have been followed.
- Cut-off rules: according to EN 15804 a minimum of 95% of total inflows (mass and energy) per module are included and more than 99% of the inflows are accounted for.
- Allocation procedure: Allocation has been avoided whenever possible. For general energy and waste data, they have been assessed by physical properties where necessary (energy, waste generation). In this case, an allocation based in mass has been used.
- The next processes have not been included since its impact is not significant:
  - Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process.
  - Personnel-related impacts, such as transportation to and from work.
  - Long term emissions

Description of system boundaries:

Cradle to grave (A+B+C) + D

System diagram:



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

Module	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	
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Module s declared	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Geography	GLO	GLO	GLO	GLO	GLO	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GL O	GLO
Specific data used	More than 99% specific data is used in the EPD.					-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	One product analyzed					-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	One production site					-	-	-	-	-	-	-	-	-	-	-	-	-

- **A1-A3 Product stage**

- **A1 Raw materials supply:** this module takes into account the extraction and processing of raw materials and the production of energy which is consumed at the manufacturing plant. This stage includes the galvanization processes made on the steel surfaces.
- **A2 Transport:** this module includes the transport of the different raw materials from the manufacturer to the factory.
- **A3 Manufacturing:** this module includes the consumption of energy during the manufacturing process (accounting for the welding activities) and production of packaging material used for the further distribution. Moreover transport and management of the factory-produced waste are considered. Losses at the production site are considered.

The electricity used is 100% certified from renewable sources. Theecoinvent process for German electricity has been modified, escalating the generation of existent renewable sources to a 100%, keeping the same proportions along the energetic sources.

- **A4-A5 Construction process stage**

- **A4 Transport**

The A4 Transportation module includes the transportation of finished and packaged products from the factory gate to the construction site for their subsequent installation. In the global distribution, there are two means of transport: truck and ship.

A weighted average of the mileage associated with the PL450 product has been considered based on its sales during 2019. For ship transport, all the associated transportation steps have been considered, such as the distance by truck from the production center to the port of departure, actual transport by ship and a truck transport from the port of arrival to a final distribution point.

PARAMETER	VALUE/DESCRIPTION
<b>Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc</b>	Truck of 16- 32 tn. Fuel consumption: 25 l/100 Km Transoceanic container ship. Heavy fuel oil consumption: 0.00102 kg / tkm
<b>Distance</b>	Truck: 804,08 km Ship: 835,47 km
<b>Capacity utilisation (including empty returns)</b>	100%
<b>Bulk density of transported products*</b>	296 kg/m3
<b>Volume capacity utilisation factor</b>	1

○ **A5 Construction/Installation**

Module A5 Installation process includes all materials and energy used to prepare the product for use. At the same time, the transport and management of packaging waste and its transport to a waste manager are taken into account.

The product is directly transferred from the truck to the installation site, where manual operations are performed to install the analyzed product.

PARAMETER	VALUE/DESCRIPTION
<b>Auxiliary materials for installation</b>	No auxiliary material used
<b>Use of water</b>	Not used
<b>Use of other resources</b>	No other resource consumption
<b>Quantitative description of the type of energy (regional mix) and the consumption during the installation process</b>	Not used
<b>Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)</b>	Product losses (0%)  The packaging materials are sent to the landfill (30kg of wooden pallet, 1kg of plastic film and 2 kg of carton)

- **B Use stage:** Use phase (B1), and require maintenance (B2), repair (B3), replacement (B4), refurbishment (B5), operational energy use (B6) or operational water use (B7) during its Reference Service Life.
  - **B4) Replacement:** Replacement of a broken component or part due to damage should be accounted for in the module "repair". The module replacement is related to products that are typically repaired (but not limited to those).

PARAMETER	VALUE/DESCRIPTION
Replacement cycle	487 kg of steel pieces & 11,5 kg of lubricating oil
Exchange of worn parts during the product's life cycle.	Not used
Quantitative description of energy type and use during replacement	No other resource consumption
Net fresh water consumption	Not used
Direct emissions to ambient air, soil and water	Product losses (0%)
Waste material resulting from repair; specified by type	4 kg of wood pieces used as packaging. 100% landfilled
Output materials (specified by type) as result of waste resulting from repair	487 kg of steel. 95% recycling and 5% landfill
Vehicle type used for transport specified for all waste and output material types	Truck
Vehicle load capacity	Transport, freight, lorry >32 metric ton, euro6 (RER)   market for transport, freight, lorry >32 metric ton, EURO6   Cut-off, S
Fuel type and consumption	Fuel consumption: 35 l/100 Km
Distance to construction site	Truck: 804,08 km Ship: 835,47 km
Capacity utilisation	100%
Bulk density of transported products	664kg/m <sup>3</sup>
Volume capacity utilisation factor	1

- **B6) Energy use to operate mechanical parking systems:** The boundary of the module “Energy use to operate mechanical parking system” shall include energy use during the operation of the product together with its associated environmental aspects and impacts including processing and transportation of any waste arising on site from the use of energy. The electricity used for the operating the parking machine is from European average electricity grid mix.

PARAMETER	VALUE/DESCRIPTION
Auxiliary materials specified by material	Not used
Type of energy carrier	Electricity in KWh
Power output of equipment	3 KW
Characteristic performance	973 KWh for 20 years (49kWh per year)
Direct emissions to ambient air, soil and water	-
Further assumptions for scenario development	-

- **C End of life stage**

- **C1 Deconstruction/demolition:** The product is collected and dismantled and 99% recycled. As the installation, is considered that manual operations are required for the dismantling.
- **C2 Transport to waste processing:** This stage considers the transport of dismantled wastes on to a waste manager located at 50km.

- **C3 Waste processing for reuse, recovery and/or recycling:** the product is 95% recycled, but no processes are required for conditioning the steel wastes in order to be recycled.
- **C4 Disposal:** the product is 5% landfilled.

PARAMETER	VALUE/DESCRIPTION
<b>C1 Deconstruction/Collection process specified by type</b>	The product is dismantled manually
<b>C2 Transport Assumptions for scenario development</b>	16-32 tn truck. Fuel consumption: 25 l/100 Km Distance: 50 km
<b>C3 Waste processing Recovery system specified by type, Recovery system specified by type</b>	REUSE-0 kg RECYCLE- 1789,83 kg (95%) ENERGY RECOVERY- 0 kg
<b>C4 Disposal Characteristic performance, Disposal specified by type</b>	94,19kg (5%)

## MODULE D

Future, reuse, recycling, or energy recovery potentials. Here this module includes the benefits of the recycling of steel. The benefits for recycling are applied to the net balance of raw material leaving the system, thus, the amount of recycled steel scrap utilized for the steel production (a 18% on A1), does not account as a benefit.

Moreover, the benefits are applied just over the outgoing wastes going to recycling, considering a 95% of recycling rate.

It's considered that the recycling process of the wastes will prevent the production of the same amount of virgin material when used in other systems.

## Content information

Product components	Material used	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-kg	Galvanized steel m <sup>2</sup>
Pit parts	Stainless steel	420,43	18%	0	11,83
Side parts	Stainless steel	241,37	18%	0	17,29
Broad parts	Stainless steel	626,54	18%	0	47,63
Small parts	Stainless steel	49,03	18%	0	0
Electrical parts	Stainless steel	6,57	18%	0	0
Chain complete	Stainless steel	28,60	18%	0	0
Hydraulic oil	Oil	13,00	18%	0	0
TOTAL	-	1385,54	-	0	76,75
Packaging materials	Weight, kg	Weight-% (versus the product)			
Pallet	60	4,33%			
Polyethylene low density	1	0,07%			
Corrugated board box	2	0,14%			
TOTAL	63	4,54%			

In A1 all the product components except hydraulic oil are made by the steel. steel process in ecoinvent is made by 82% virgin steel and 18% recycled steel. For electrical part is assumed as steel. It is less than 1% of whole system.

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

## Environmental Information

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per Functional Unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO <sub>2</sub> eq.	3,74E+03	1,98E+02	0	0	0	0	1,08E+03	0	4,38E+02	0	0	1,53E+01	0	5,07E-01	-2,02E+03
GWP-fossil	kg CO <sub>2</sub> eq.	3,73E+03	1,98E+02	0	0	0	0	1,07E+03	0	4,34E+02	0	0	1,53E+01	0	5,07E-01	-2,03E+03
GWP-biogenic	kg CO <sub>2</sub> eq.	4,64E+00	6,54E-02	0	0	0	0	9,36E-01	0	2,76E+00	0	0	4,83E-03	0	3,12E-04	2,01E+00
GWP-luluc	kg CO <sub>2</sub> eq.	3,37E+00	6,09E-02	0	0	0	0	4,09E-01	0	9,34E-01	0	0	4,55E-03	0	1,37E-04	3,51E-01
ODP	kg CFC 11 eq.	2,29E-04	4,50E-05	0	0	0	0	7,96E-05	0	3,37E-05	0	0	3,52E-06	0	2,26E-07	-5,31E-05
AP	mol H <sup>+</sup> eq.	2,28E+01	1,09E+00	0	0	0	0	5,91E+00	0	3,37E+00	0	0	4,41E-02	0	4,92E-03	-8,38E+00
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	4,65E+00	1,22E-01	0	0	0	0	1,31E+00	0	3,90E-01	0	0	4,80E-03	0	6,43E-04	-6,88E-01
EP-freshwater	kg P eq.	1,02E+00	2,96E-03	0	0	0	0	2,91E-01	0	5,56E-02	0	0	2,31E-04	0	8,92E-06	-6,58E-02
EP-marine	kg N eq.	3,83E+00	2,84E-01	0	0	0	0	1,09E+00	0	3,55E-01	0	0	8,22E-03	0	1,61E-03	-1,49E+00
EP-terrestrial	mol N eq.	4,90E+01	3,17E+00	0	0	0	0	1,34E+01	0	7,42E+00	0	0	9,39E-02	0	1,79E-02	-1,52E+01
POCP	kg NMVOC eq.	1,78E+01	9,33E-01	0	0	0	0	5,54E+00	0	1,03E+00	0	0	3,57E-02	0	5,20E-03	-1,17E+01
ADP-minerals&metals*	kg Sb eq.	6,24E-01	5,52E-04	0	0	0	0	1,52E-02	0	6,50E-04	0	0	4,64E-05	0	5,60E-07	1,14E-03
ADP-fossil*	MJ	3,79E+04	2,95E+03	0	0	0	0	1,14E+04	0	4,68E+03	0	0	2,30E+02	0	1,51E+01	-1,81E+04
WDP	m <sup>3</sup>	8,62E+02	1,54E+01	0	0	0	0	2,38E+02	0	1,26E+02	0	0	1,19E+00	0,00E+00	6,83E-01	1,32E+02
Acronyms	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.

## Potential environmental impact – additional mandatory and voluntary indicators

Results per Functional Unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	3,59E+03	1,96E+02	0	0	0	0	1,03E+03	0	4,32E+02	0	0	1,52E+01	0	4,97E-01	-1,90E+03
<i>Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017</i>																

\*Other optional environmental impact categories are presented on LCA report

## Use of resources

Results per Functional Unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	5,62E+03	3,40E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,15E+03	0,00E+00	1,57E+03	0,00E+00	0,00E+00	2,49E+00	0,00E+00	1,25E-01	7,26E+02
PERM	MJ	6,78E+02	0	0	0	0	0	6,40E+01	0	0	0	0	0	0	0	0
PERT	MJ	6,29E+03	3,40E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,21E+03	0,00E+00	1,57E+03	0,00E+00	0,00E+00	2,49E+00	0,00E+00	1,25E-01	7,26E+02
PENRE	MJ	4,36E+04	3,19E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E+04	0,00E+00	9,43E+03	0,00E+00	0,00E+00	2,48E+02	0,00E+00	1,62E+01	- 1,60E+04
PENRM	MJ.	42,4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	4,36E+04	3,19E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E+04	0,00E+00	9,43E+03	0,00E+00	0,00E+00	2,48E+02	0,00E+00	1,62E+01	- 1,60E+04
SM	kg	9,15E+02	0	0	0	0	0	3,07E+02	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

<sup>1</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	m <sup>3</sup>	2,69E+01	5,50E-01	0	0	0	0	7,15E+00	0	7,19E+00	0	0	4,28E-02	0	1,59E-02	6,75E+00
Acronyms	<p>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</p>															

\*LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks Waste production and output flows

### Waste production

Results per Functional Unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,80E-01	1,89E-03	0	0	0	0	6,99E-02	0	1,19E-02	0	0	1,49E-04	0	1,02E-05	-2,54E-01
Non-hazardous waste disposed	kg	1,23E+03	1,33E+02	0	0	0	0	4,49E+02	0	2,92E+01	0	0	1,12E+01	0	9,40E+01	1,41E+02
Radioactive waste disposed	kg	1,02E-01	2,03E-02	0	0	0	0	3,58E-02	0	6,64E-02	0	0	1,58E-03	0	1,01E-04	3,04E-02

### Other output flows

Results per Functional Unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,85E+03
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Information on biogenic carbon content

Results per Functional Unit		
BIOTIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging (3 euro-pallets for 1 analysed system)	kg C	55

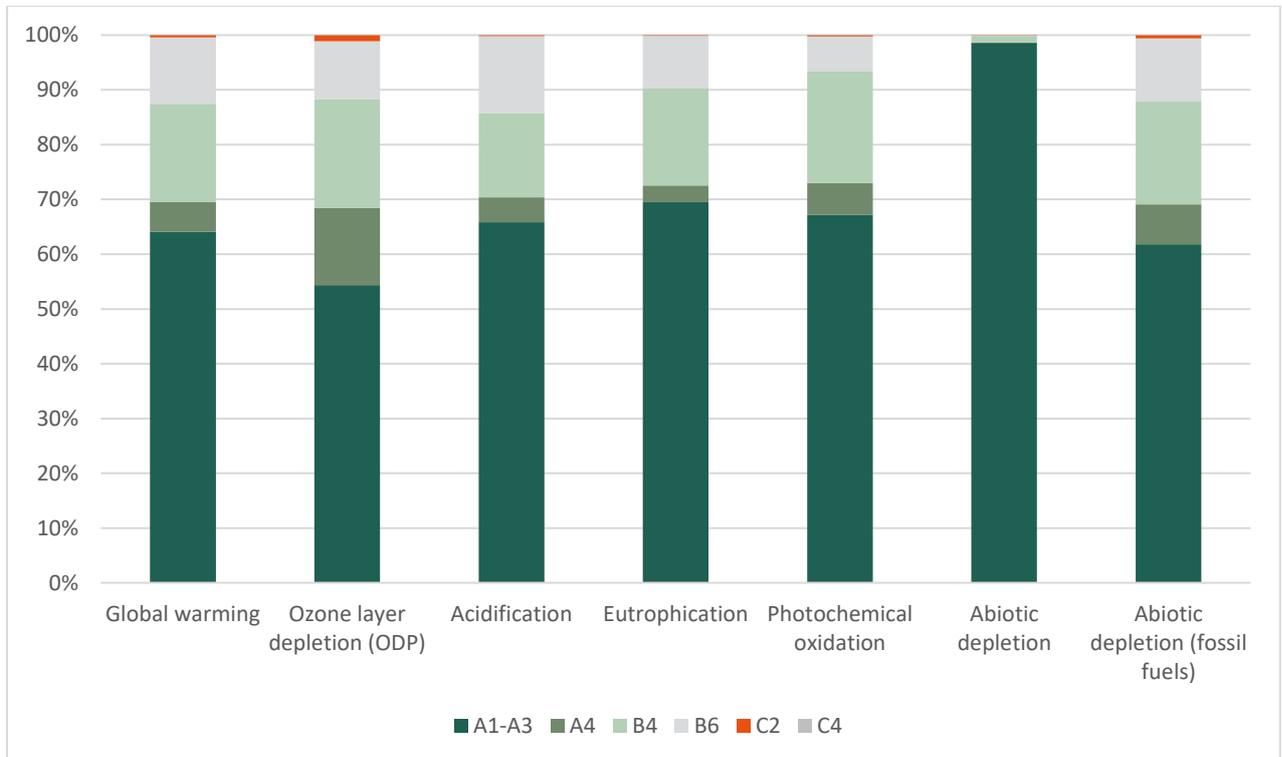
*Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>*

## LCA Interpretation

The product stage (A1-A3) is the life cycle stage with the greatest impact for all the impact categories analyzed, representing between 99% (Abiotic depletion) and 54% (Ozone layer depletion) of the total impact of the product life cycle.

The Core module (A4-A5) represents an intermediate impact for all the impact categories analyzed. Transport (A4) represents between 0,09% (Abiotic depletion) and 14% (Ozone layer depletion) of the total life cycle impact. On the other hand, B4 stage represents between 20% (photochemical oxidation) and 1,21% (abiotic depletion). B6 stage represents 14% (acidification) to 0,11% (abiotic depletion).

C2 Transport represents between 0.01% (Abiotic depletion) and 1.10% for the Ozone layer depletion of the total impact. Finally, C4 Waste treatment represents an impact lower than 0,5% for all impact categories.



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## Information related to Sector EPD

Individual EPD.

## Differences versus previous versions

First version of EPD

## References

- General Programme Instruction of the International EPD® System. Version 4.0.
- ISO 14020:2000 Environmental labels and declarations-General principles
- ISO 14025:2010 Environmental labels and declarations-Type III Environmental Declarations-Principles and procedures
- ISO 14040:2006 Environmental management-Life Cycle Assessment-Principles and framework
- ISO 14044:2006 Environmental management-Life Cycle Assessment-Requirements and guidelines
- PCR 2019:14 Construction products (EN 15804:A2) version 1.1
- EN 15804:2012+A2:2019 Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products
- LCA report of Mechanical parking system (PL450) 2021
- Product Environmental Footprint Category Rules (PEFCR) guidance, Annex C 2.1 of the European Commission. May 2020

