

Environmental Product Declaration

Specific EPD

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

Outdoor Mat ECOCOVER



Programme Operator

EPD Square | www.epdsquare.com

Programme operator

EPD Square, s.r.o.

EPD Registration number

SQ 00-001

Publication date

05.06.2024

Valid until

04.06.2029

General information

Product

Outdoor Mat

Programme operator

EPD Square

Karadžičova 16, 811 09, Bratislava, Slovakia

Email: info@epdsquare.com

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SQ 00-001

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05.06.2024

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04.06.2029

Owner of the declaration

ECO Cover ApS

Contact person: Morten Skorstengaard

Telephone number: +45 51844784

Website: www.ecocover.nu

Email: ms@ecocover.nu

Manufacturer

Pulcarpet

Ankara Turkey

Place of production

Ankara, Turkey

Product Category Rules (PCR)

The CEN standard EN 15804 serves as the core PCR. In addition, EPD Square PCR v1.0, 2024 is used.

Declared unit (DU)/ Functional Unit (FU)

1 m²

Mass per DU

3 kg

Year of study

2023

UN CPC Code

36910

Geographical Scope

Europe

Comparability

EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in the context of the building

EPD author

Sarah Curpen, curpen@salvis.sk, SALVIS s.r.o.

Verification type

Independent verification of the declaration and data, according to ISO14025:2006

Internal:

External:

Verified by

Eng. Shai Ben Aharon, KVS

The owner of the declaration shall be liable for the underlying information and evidence.

EPD Square shall not be liable with respect to manufacturer, life cycle assessment data and evidence.

System boundaries

Cradle-to-gate with options and end-of-life phase. The EPD covers the phases from raw material extraction to production (A1-A3) and end-of-life (C1-C4), optional modules (A4, A5) and impacts beyond the system boundary (D).

Modules declared and geographical scope

	Product stage			Construction process stage		Use stage							End of life stage				Beyond the system boundary
	Raw material supply	Transport	Manufacturing	Transport	Construction, installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction, 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	✓	✓	✓	✓	✓	MND	MND	MND	MND	MND	MND	MND	✓	✓	✓	✓	✓
Geography	TR	TR	TR	TR/DK	DK	MND	MND	MND	MND	MND	MND	MND	DK	DK	DK	DK	DK

Modules not declared = MND.

Description of Organization

ECOCOVER is a retailer of products for covering and protecting surfaces. They have a very wide range of solutions for everything from concrete stairs/floors to worktops, doors and windows to lifts, wooden floors, fixtures and other finished surfaces. They have a primary goal of helping to ensure that all Scandinavian construction projects and renovations can be delivered with an even higher quality than what has been done in the past. ECOCOVER has a strong focus on offering our customers a cover that is specific to the cover they need to make, so that it can be done as efficiently and easily as possible. They also make a big effort to think sustainability into as many products as possible.

Product information

Product name

Outdoor Mat

Product description

Outdoor Mat is a non-slip, non-flammable and easy-to-clean type of mat made of polyvinylchloride (PVC). It comes in 12 different colors. Outdoor Mat is a multipurpose product. It is primarily a solution for construction site access and access roads. It is a flexible, durable, reliable and low maintenance solution. It lays down flexibly and clearly marks where the walkway is, even if the light has disappeared. It is designed to withstand foot traffic, loads and extreme weather conditions.

Product specification

ISO11925, EN1176-1, EN1177:2011-01

Physical Properties

14 mm thickness, weight 3,0 kg/m²

Non-slip, anti-bacterial, high visibility, easy to clean and protection from dirt.

Geographical scope

Europe

Product contents information

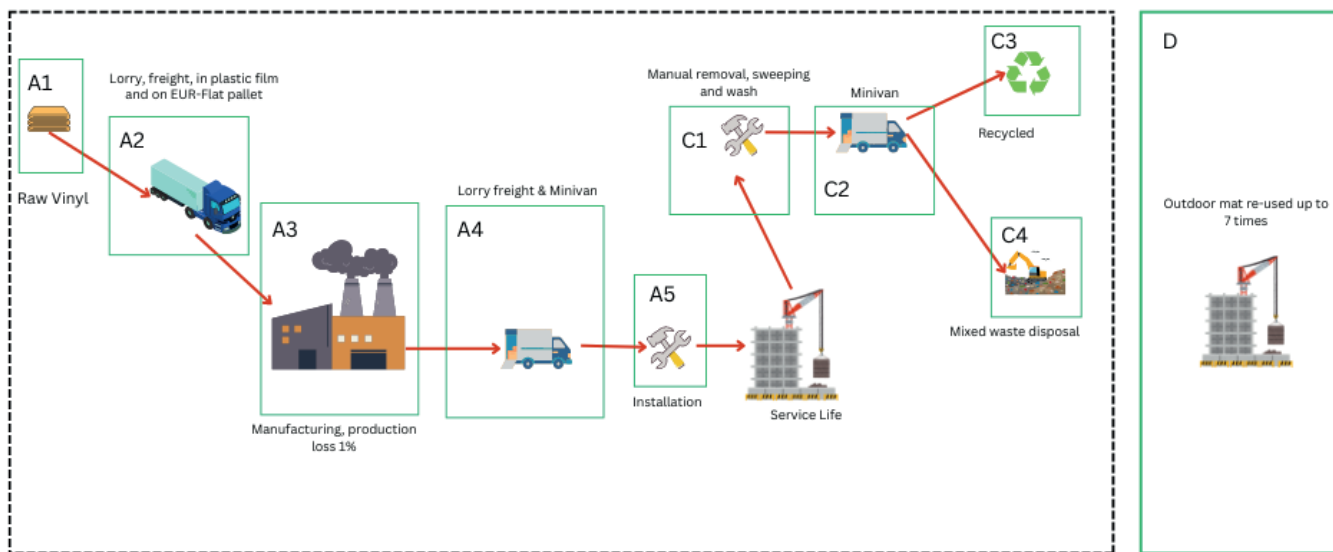
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
PVC	3	[-]	[-]
TOTAL	3		
Packaging materials	Weight, kg	Weight-% (versus the product)	
Paper	0.02	0.67	
Wood Pallet	0.165	5.5	
TOTAL	0.185	6.17	

Manufacturing (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

Manufacturing Process

The sole material involved in producing is vinyl. The vinyl is 100% sourced from primary materials and does not contain post-consumer or renewable sources. The vinyl is brought from various locations within Turkey to the city of Ankara where the manufacturing plant is located. The supply of vinyl does not originate from regular suppliers over time. Therefore, considering manufacturer's records from previous years, an average distance of 1000 km is considered. The method of transportation is truck with 16-32 metric ton payload capacity. The raw material, vinyl, is mixed and placed into the feeding line. The feeding part moves the raw material into the extruder and then the vinyl is molded. The molded semi-finished product is then dried and packaged as a finished product.



Life cycle assessment (LCA)

Cut off criteria

The study does not exclude any modules or processes which are stated mandatory in the Standards and PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw materials and energy consumption. All inputs and outputs of the unit processes for which data is available are included in the calculation.

The color pigments represent less than 1% of total mass in A1, A2 and A3 respectively and are therefore not included. The total excluded input and output flows do not exceed 5% of energy usage or mass.

Allocation, Estimates and Assumptions

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation.

In this study, as per EN 15804, allocation is conducted in the following order:

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g. mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

Specific data for the product composition represents the production of the declared product and were collected for the year of study.

Database(s) and LCA software

This EPD has been created using One Click LCA Pre-Verified EPD Generator. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

LCA scenario and additional environmental information

Manufacturing energy scenario

Electricity data source and quality	Electricity, Turkey, residual mix
Electricity CO _{2e} / kWh	0.72
Energy data source and quality	Heat production, natural gas, at industrial furnace >100kW
Heat production kg CO _{2e} / kWh	0.066
Energy data source and quality	Cooling energy, from natural gas, cogen unit with absorption chiller 100kW
Cooling energy kg CO _{2e} / MJ	0.070

Transport from production place to assembly/user (A4)

Transportation impacts that occurred from final product delivery to the construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. Transport of finished product is done in two legs:

- I) In the first leg, the product is moved from the manufacturing location in Turkey to Denmark by truck
- II) Based on the manufacturer’s record for product dispatch from his warehouse to various locations within Denmark, a weighted average distance of 215 km is considered. The product is dispatched by means of a minivan.

The material is packed in rolled bundles so that there is no loss during transportation.

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance [km]	Fuel/Energy consumption	value (L/tkm)
Truck	100	Lorry 16-32 ton, EURO6	3354	2.50 MJ/tkm	0.063
Truck	100	Lorry 16-32 ton, EURO6	215	2.52 MJ/tkm	0.063

Assembly (A5)

The assembly of the products does not require any mechanical machine and can be installed by workers. The rolls are unpacked as laid on the construction site by workers manually. Therefore, the energy involved in assembling the product is 0.

Use Phase (B1-B7)

The modules for use phase (B1-B7) are not included in the LCA. They are irrelevant to the product, Outdoor Mat.

End of Life (C1, C2, C3, C4)

	Unit	Value
Hazardous waste disposed	Kg	[-]
Collected	Kg	3
Reuse	Kg	2.85
Recycling	Kg	0.09
Energy recovery	Kg	[-]
To landfill	Kg	0.06

The vinyl outdoor mat can be reused. Therefore, it is collected and brought back to the warehouse before being dispatched to the next construction site. The efficiency of collection was estimated as 95% by the EPD owner who performs collection and distribution of the product. 3% of the product is deemed not usable and typically sent directly to a plastic recycling facility. The treatment technologies at recycling facilities are as follows: 0% of open burning, 2% of sanitary landfill, 98% of municipal incineration (Frane et al. 2019). 2% of the outdoor mat on construction site is assumed to be entangled with other materials such as concrete. Therefore, it is transported as mixed waste to the municipal treatment facility.

Transport to waste processing (C2)

Type	Capacity utilisation (excl. return) %	Type of vehicle	Distance KM
Truck (Reuse)	100	Lorry 3.5-7.5 ton, EURO6	215
Truck (Recycling)	100	Lorry 3.5-7.5 ton, EURO6	50
Truck (Mixed Waste)	100	Lorry 3.5-7.5 ton, EURO6	50

95% of the outdoor mat product is brought back to the warehouse, 558 km from the construction site. 3% are moved to recycling facility, 50km away and 2% is transported as municipal waste 50km to treatment facility.

LCA results

Mandatory impact category indicators – EN 15804+A2, PEF

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	6.4E+00	4.9E-01	4.2E-01	7.3E+00	2.0E+00	4.8E-01	0.0E+00	3.2E-01	6.1E+00	-1.3E-02	-8.9E+00
GWP-fossil	kg CO2 eq.	6.0E+00	4.9E-01	6.1E-01	7.1E+00	2.0E+00	4.3E-03	0.0E+00	3.1E-01	6.1E+00	3.1E-02	-8.9E+00
GWP-biogenic	kg CO2 eq.	4.5E-01	2.0E-04	-1.9E-01	2.6E-01	8.0E-04	4.8E-01	0.0E+00	1.7E-04	1.3E-02	-4.4E-02	-2.4E-02
GWP-LULUC	kg CO2 eq.	0.0E+00	2.0E-04	2.6E-04	4.6E-04	7.0E-04	5.8E-06	0.0E+00	1.9E-04	8.5E-04	6.7E-07	-7.2E-03
ODP	kg CFC11 eq.	2.8E-06	1.1E-07	3.5E-08	2.9E-06	4.0E-07	3.9E-10	0.0E+00	6.9E-08	2.0E-07	2.5E-10	-3.3E-06
AP	mol H ⁺ eq.	9.3E-03	1.4E-03	3.6E-03	1.4E-02	8.0E-03	1.7E-05	0.0E+00	9.0E-04	4.6E-03	1.8E-05	-4.4E-02
EP-freshwater	kg P eq.	1.9E-04	3.5E-06	2.0E-05	2.2E-04	1.0E-05	1.9E-07	0.0E+00	3.2E-06	2.1E-05	3.1E-08	-2.7E-04
EP-marine	kg N eq.	1.0E-04	2.8E-04	6.0E-04	9.8E-04	2.0E-03	3.6E-06	0.0E+00	1.6E-04	1.1E-03	8.0E-06	-7.0E-03
EP-terrestrial	mol N eq.	1.4E-03	3.1E-03	6.9E-03	1.1E-02	3.0E-02	3.8E-05	0.0E+00	1.8E-03	1.2E-02	8.2E-05	-8.8E-02
POCP	kg NMVOC eq.	5.3E-03	1.2E-03	2.0E-03	8.5E-03	8.0E-03	1.2E-05	0.0E+00	7.0E-04	3.5E-03	2.0E-05	-2.5E-02
ADP-M&M	kg Sb eq.	0.0E+00	1.8E-06	8.5E-07	2.6E-06	7.0E-06	2.7E-08	0.0E+00	2.0E-06	9.1E-06	7.5E-09	-1.3E-04
ADP-fossil	MJ	0.0E+00	7.3E+00	2.9E+00	1.0E+01	3.0E+01	5.4E-02	0.0E+00	4.6E+00	9.5E+00	2.0E-02	-1.7E+02
WDP	m ³	5.9E-01	3.4E-02	2.8E-01	9.1E-01	1.0E-01	1.2E-03	0.0E+00	2.8E-02	5.8E-01	4.2E-03	-5.0E+00

GWP-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; See "additional requirements" for indicator given as PO4 eq. **EP-marine:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **EP-terrestrial:** Eutrophication potential, Accumulated Exceedance; **POCP:** Formation potential of tropospheric ozone; **ADP-M&M:** Abiotic depletion potential for non-fossil resources (minerals and metals); **ADP-fossil:** Abiotic depletion potential for fossil resources; **WDP:** Water deprivation potential, deprivation weighted water consumption

Additional voluntary impact category indicators – EN 15804+A2, PEF

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1.2E-07	3.9E-08	1.2E-08	1.7E-07	1.7E-07	9.4E-10	0.0E+00	1.8E-08	7.1E-08	1.6E-10	-4.0E-07
IRP	kBq U235 eq.	4.0E-01	3.8E-02	1.2E-02	4.5E-01	1.5E-01	8.9E-04	0.0E+00	2.6E-02	6.5E-02	7.8E-05	-4.8E-01
ETP-fw	CTUe	6.6E+01	6.1E+00	5.9E+00	7.8E+01	2.3E+01	1.0E-01	0.0E+00	4.3E+00	3.4E+02	1.6E-01	-1.8E+02
HTP-c	CTUh	1.8E-09	1.9E-10	3.4E-10	2.3E-09	7.4E-10	9.5E-12	0.0E+00	1.7E-10	2.0E-09	8.7E-12	-7.0E-09
HTP-nc	CTUh	1.1E-07	5.9E-09	3.7E-09	1.1E-07	2.4E-08	7.9E-11	0.0E+00	3.9E-09	9.5E-08	3.3E-10	-1.3E-07
SQP	[-]	0.0E+00	5.2E+00	1.7E+01	2.2E+01	2.0E+01	3.5E-02	0.0E+00	2.3E+00	5.6E+00	1.2E-02	-1.9E+01

PM: Particulate matter emissions; *IRP*: Ionising radiation, human health; *ETP-fw*: Ecotoxicity (freshwater); *ETP-c*: Human toxicity, cancer effects; *HTP-nc*: Human toxicity, non-cancer effects; *SQP*: Land use related impacts / soil quality

Resource use indicators

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
RPEE	MJ	1.1E+01	1.1E-01	2.4E+00	1.4E+01	4.00E-01	6.1E-03	0.0E+00	9.9E-02	8.6E-01	6.5E-04	-6.5E+00
RPEM	MJ	0.0E+00	0.0E+00	1.8E+00	1.8E+00	0.00E+00	- 4.4E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPE	MJ	1.1E+01	1.1E-01	4.1E+00	1.5E+01	4.00E-01	- 4.4E+00	0.0E+00	9.9E-02	8.6E-01	6.5E-04	-6.5E+00
NRPE	MJ	1.1E+02	7.3E+00	7.3E+00	1.2E+02	2.80E+01	5.4E-02	0.0E+00	4.6E+00	9.5E+00	2.0E-02	-1.1E+02
NRPM	MJ	6.2E+01	0.0E+00	1.9E+00	6.4E+01	0.00E+00	- 1.9E+00	0.0E+00	0.0E+00	6.3E+01	0.0E+00	9.3E-01
TRPE	MJ	1.7E+02	7.3E+00	9.2E+00	1.9E+02	2.80E+01	- 1.9E+00	0.0E+00	4.6E+00	7.3E+01	2.0E-02	-1.1E+02
SM	kg	2.7E-02	2.5E-03	6.9E-03	3.6E-02	9.40E-03	7.8E-05	0.0E+00	2.4E-03	3.1E-03	2.2E-05	-2.6E-02
RSF	MJ	2.7E-04	2.7E-05	6.0E-02	6.0E-02	1.00E-04	6.0E-07	0.0E+00	2.9E-05	9.6E-04	4.2E-07	-2.7E-04
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
W	m³	1.3E-01	9.3E-04	2.9E-03	1.4E-01	3.50E-03	3.2E-05	0.0E+00	7.6E-04	2.7E-01	7.0E-05	-1.3E-01

RPEE: Renewable primary energy resources used as energy carrier; *RPEM*: Renewable primary energy resources used as raw materials; *TPE*: Total use of renewable primary energy resources; *NRPE*: Non-renewable primary energy resources used as energy carrier; *NRPM*: Non-renewable primary energy resources used as materials; *TRPE*: Total use of non-renewable primary energy resources; *SM*: Use of secondary materials; *RSF*: Use of renewable secondary fuels; *NRSF*: Use of non-renewable secondary fuels; *W*: Use of net fresh water

Waste indicators

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	kg	5.5E-03	8.3E-03	2.2E-02	3.6E-02	3.1E-02	3.3E-04	0.0E+00	7.3E-03	0.0E+00	0.0E+00	-6.1E-01
NHW	kg	3.7E-02	1.5E-01	8.2E-01	1.0E+00	5.6E-01	8.5E-03	0.0E+00	1.3E-01	0.0E+00	6.0E-02	-1.1E+01
RW	kg	3.2E-04	5.0E-05	6.0E-06	3.8E-04	1.9E-04	3.5E-07	0.0E+00	3.1E-05	0.0E+00	0.0E+00	-2.0E-04

HW: Hazardous waste disposed; NHW: Non-hazardous waste disposed; RW: Radioactive waste disposed

Output flow indicators

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
CR	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E+00	0.0E+00	0.0E+00
MR	kg	0.0E+00	0.0E+00	3.0E-02	3.0E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.0E-02	0.0E+00	0.0E+00
MER	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EEE	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
ETE	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Information describing biogenic carbon content at factory gate

Biogenic carbon content	Unit	Value
Biogenic carbon content in product	kg C	[-]
Biogenic carbon content in the accompanying packaging	kg C	0.074

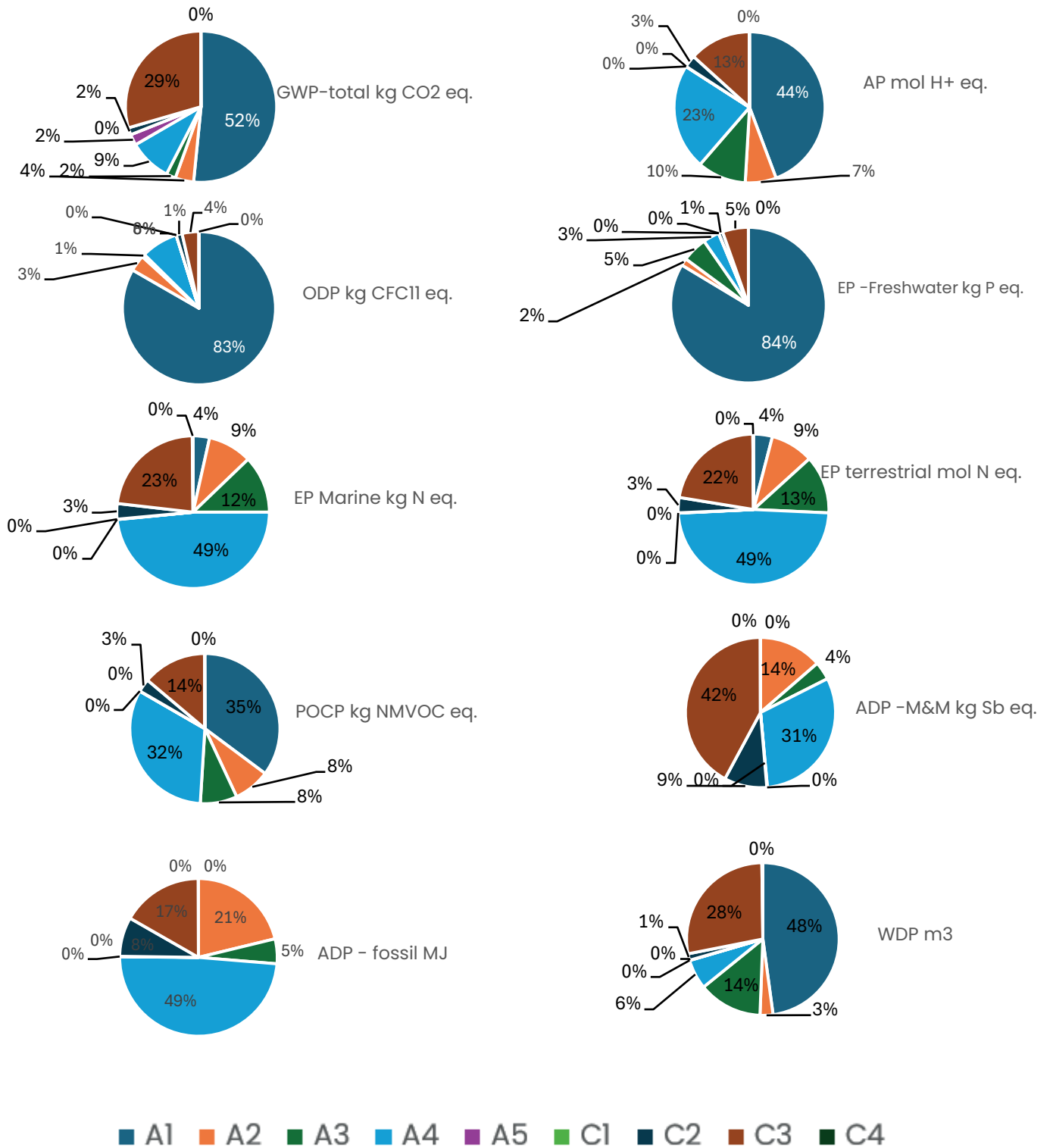
Specific data (GWP-GHG) and data variation for A1-A3

Specific data and data variation	
Specific data	>90%
Variation - product	-
Variation - site	-

Hazardous substances

The product does not contain any REACH SVHC substances in amounts greater than 0.1 %

LCA Graphical results



Contact information

Programme operator

EPD Square, s.r.o.
Karadžičova 16, 811 09, Bratislava, Slovakia
Email: info@epdsquare.com

EPD owner

Morten Skorstengaard
Telephone number: +45 51844784
Email: ms@ecocover.nu
Website: www.ecocover.nu

Author of Life Cycle Assessment (LCA)

Sarah Curpen, SALVIS s.r.o.
Email: curpen@salvis.sk

EPD verifier

Eng. Shai Ben Aharon, KVS
Email: shai@kvs.co.il

LCA software

OneClickLCA

Bibliography

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Environmental labels and declarations – General principles

ISO 14025:2010

Environmental labels and declarations - Type III environmental declarations - Principles and procedures

ISO 14040:2006

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ISO 14044:2006

Environmental management - Life cycle assessment - Requirements and guidelines

EN 15804:2012+A2:2019

Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products

ISO 21930:2007

Sustainability in building construction - Environmental declaration of building products

EPD Square. PCR v.1, 2024

EPD Square. General Programme Instructions v.1, 2024.

Ecoinvent database v3.8 (2021) & One Click LCA database

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LCA background report 15.03.2024

Annex

Environmental Impacts – EN 15804+A1, CML/ISO 21930

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO2e	6.2E+00	4.8E-01	6.0E-01	7.3E+00	1.9E+00	4.3E-03	0.0E+00	3.1E-01	6.1E+00	3.1E-02	-8.6E+00
ODP	kg CFC11e	2.7E-06	9.0E-08	2.8E-08	2.9E-06	3.5E-07	3.2E-10	0.0E+00	5.5E-08	1.8E-07	2.2E-10	-3.3E-06
AP	kg SO2e	7.7E-03	1.1E-03	3.0E-03	1.2E-02	6.1E-03	1.4E-05	0.0E+00	7.5E-04	3.7E-03	1.3E-05	-3.5E-02
EP	kg PO4e	7.8E-03	2.5E-04	9.4E-04	9.0E-03	1.4E-03	2.8E-05	0.0E+00	1.8E-04	1.9E-03	1.8E-05	-1.2E-02
POCP	kg Ethenee	4.3E-04	5.8E-05	1.5E-04	6.3E-04	2.5E-04	1.0E-06	0.0E+00	4.0E-05	2.4E-04	4.0E-07	-1.9E-03
ADP-non fossil	kg Sbe	3.5E-08	1.7E-06	1.7E-06	3.4E-06	6.5E-06	2.7E-08	0.0E+00	1.9E-06	6.6E-06	5.5E-09	-1.1E-04
ADP-fossil fuels	MJ	1.4E+02	7.3E+00	8.2E+00	1.6E+02	2.8E+01	5.4E-02	0.0E+00	4.6E+00	9.5E+00	2.0E-02	-1.7E+02

***GWP:** Global Warming Potential; **ODP:** Depletion potential of the stratospheric ozone layer; **AP:** Acidification potential, Accumulated Exceedance; **EP-freshwater:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See "additional requirements" for indicator given as PO4 eq. **EP:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **POCP:** Formation potential of tropospheric ozone; **ADP-non fossil:** Abiotic depletion potential for non-fossil resources (minerals and metals); **ADP-fossil:** Abiotic depletion potential for fossil resources;*

Environmental impacts – GWP-GHG

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP - GHG	kg CO2e	6.0E+00	4.9E-01	6.1E-01	7.1E+00	2.0E+00	4.3E-03	0.0E+00	3.1E-01	6.1E+00	3.1E-02	-8.9E+00

***GWP- GHG:** Global Warming Potential, greenhouse gases*