



Environmental Product Declaration



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

UNI TAPE

Universal adhesive tape for interior use

from

pro clima - MOLL bauökologische Produkte GmbH



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB Box 21060 SE-10031 Stockholm, Sweden
EPD registration number:	EPD-IES-0017296
Publication date:	06/12/2024
Valid until:	06/12/2029
EPD type:	EPD of a specific product

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

General information

Programme information

Programme: The International EPD® System

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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 1.3.4.

UN CPC code: No. 36920: "Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics"

PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact

Life Cycle Assessment (LCA)

LCA accountability: Jannik Schulz, María Díaz Cáceres,
brands & values GmbH, info@brandsandvalues.com

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

EPD verification by individual verifier

Third party verifier: Jan Weinzettel, weinzettel@seznam.cz

Approved by: The 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD

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Contact

Michael Förster: support@proclima.com

Description of the organisation

pro clima is a pioneer in the intelligent, reliable sealing of building envelopes. The company develops and markets product systems for achieving maximum protection against moisture damage to structures and mould:

- Humidity-variable hydrosafe® high-performance vapour check and airtightness membranes for interior sealing on new buildings and renovation projects.
- Roofing underlays and breather membranes (WRBs) with active moisture transport for permanently protected exterior sealing of roofs and walls.
- Special adhesives and waterproof tapes.
- Sealing grommets as detailed solutions.

Highest quality for optimal performance

- The system products are manufactured using state-of-the-art production processes at leading production facilities in Germany.
- Production is subject to the highest quality standards, ensuring that insulation is reliably protected against moisture damage and mould.
- Highest effectiveness of thermal insulation.
- Reduction of heating costs due to optimal air sealing.
- Dry insulation materials.
- Best possible protection against moisture damage to structures and mould.
- Comfortable interiors in summer and winter.
- Healthy indoor climates.
- Highest ecological value.

Together towards a successful future

People are the focus of every decision at pro clima, and the company's guiding mission is to advance building culture as a whole. To achieve this goal, system products have been developed for over 30 years that are consistently geared to meet the health and comfort needs of users. **Many of pro clima's** pioneering developments are now established as state-of-the-art approaches. Today, these products are successfully used in over 40 countries worldwide.

Name and location of production site(s)

pro clima / MOLL bauökologische Produkte GmbH – Rheintalstr. 35-43 – 68723 Schwetzingen – Germany.

Product-related or management system-related certifications

All production sites are ISO 9001 certified.

Product information

Product name

UNI TAPE

Product identification

Universal adhesive tape for interior use

Product description

UNI TAPE has the following components:

backing: special paper with reinforcement layer; adhesive: water -resistant SOLID adhesive; release film: silicone-coated paper

UN CPC code

No. 36920: "Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics"

Products covered by the EPD

UNI TAPE (width: 0.06 m / length: 30 m) GTIN 4026639220769

UNI TAPE (width: 0.15 m / length: 30 m) GTIN 4026639016324

UNI TAPE (width: 0.2 m / length: 30 m) GTIN 4026639016379

This EPD relates to a single product – UNI TAPE – and covers multiple GTINs. While all variants are essentially the same product, they differ only in their dimensions or customised printing, such as customer logos. These variations meet specific customer requirements, but do not alter the inherent environmental characteristics of the product, thus justifying a common EPD.

Geographical Scope

Global

Applications

For permanently secured airtight taping of the overlaps between vapour check and airtight membranes, and for implementing seals between these membranes and adjacent surfaces. For interior use. It is also suitable for taping butt joints between wood-based panels.

Properties

Adheres reliably, even if moisture is present: water-resistant SOLID adhesive. Particularly durable: adhesion for 100 years, independently tested and confirmed. Easy to work with: paper backing, can be torn by hand. Construction in adherence with standards: for airtight sealing in accordance with DIN 4108-7, SIA 180 and RE 2020. Excellent values in hazardous substance testing, has been tested according to the ISO 16000 evaluation scheme.

Technical specifications

Property	Regulation	Value
Colour	N/A	Light blue
Bond durability, non-aged/aged	DIN 4108-11	Passed
Installation temperature	N/A	Above -10 °C ; 14 °F
Temperature resistance	N/A	Permanent -40 °C to 90 °C ; -40 °F to 194 °F
Storage	N/A	Cool and dry

LCA information

The EPD conducted is for the specific product UNI TAPE universal adhesive tape

Declared unit: 1m² of UNI TAPE universal adhesive tape and accompanying packaging.

Conversion factor to mass: 0.496 kg/m² (Product with packaging)

Grammage of product: 0.308 kg/m² (Product without packaging)

Reference service life: 100 years

Time representativeness: Based on yearly manufacturing data from 01/01/2023 until 31/12/2023.

Description of the manufacturing processes

In the manufacturing process for UNI TAPE universal adhesive tape for interior use, the backing paper is first produced, coated and then printed, after which the backing and adhesive are bonded together and a release film is attached to create large rolls. These rolls are cut into smaller rolls of tape, which are the sales units. These rolls are then packaged and sent for storage and distribution, first to the central warehouse in Germany, and then all over the world for further sale.

Database and LCA software used

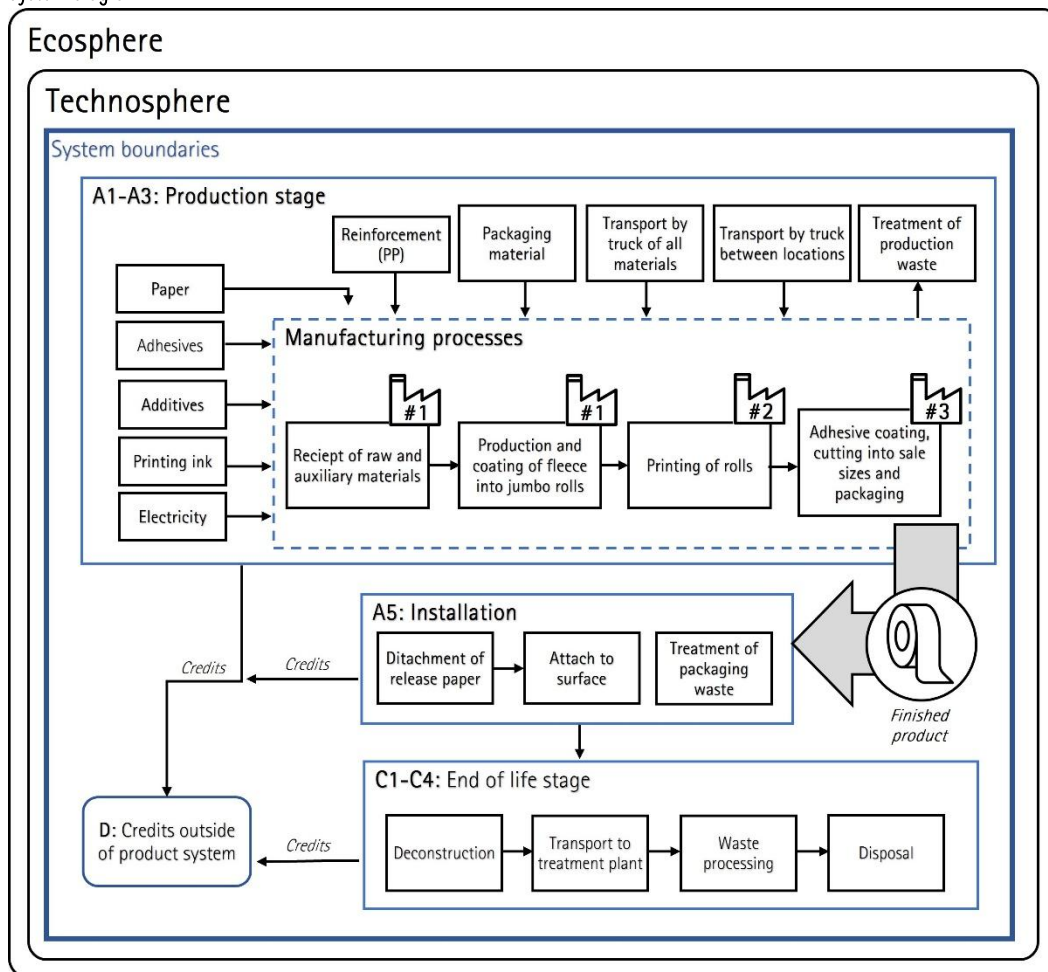
For the LCA model, the software system for holistic balancing (LCA for Experts) version 10.9 was used. Background data sets from the current version of the LCA for experts (GaBi) database service pack 2024.2 were used entirely.

Description of system boundaries

b) Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional module is A5.

- The biogenic C of the product packaging is balanced out in module A5.
- Impacts of adhesive drying are included in module A5.
- Infrastructure and capital goods are excluded from the system boundaries.
- All processing steps and locations are balanced within the system boundaries.
- The LCI manufacturing data was gathered for the specific declared product, and no co-product allocation was necessary.
- The allocation of waste follows the polluter-pays principle. The system boundary to the next product system is set when the waste reaches the end-of-waste state. The impacts of waste treatment from production are included in Module A3. The impacts of waste treatment during end-of-life are included in Module C3, where the product reaches the end-of-waste status.
- All the LCI data in Modules A1-A5 corresponds to primary data collected from the manufacturing plant and contracted suppliers, including material and energy inputs, and waste and emission outputs. This data is responsible for >90% of the GHG emissions.

System diagram



Each processing step within the system boundaries is marked with an icon and number (#1, #2, etc.), indicating the specific production site where it occurs. The system boundaries cover the following modules:

A1. Raw Material Supply

- Extraction and processing of raw materials required for manufacturing the declared adhesive tape: Reinforcement (PP), additives, printing ink and paper.
- Extraction and processing of raw materials required for packaging the 1 m² of finished product. This includes the release paper, which is found between the layers of tape, and the roll core which holds the structure of the tape roll. The materials are: Paper, silicone, cardboard, film (PE), film (PP), pallet.
- Extraction and processing of raw materials required for internal packaging, referring to packaging for the transportation of the semi-finished product between all locations depicted in the system diagram (#1 to #3). Internal packaging includes cardboard, film (PE) and wood Pallet.
- Generation of electricity from primary energy resources to supply the production sites with energy.

A2. Transportation

- Transportation of the raw materials was modelled based on the providers specific locations and transportation via truck to the corresponding production locations in Germany. All materials are procured from providers within a distance of less than 1400 km.
- After production is done in the production location #1, the large rolls are transported to the production location #2 for printing. The application of the adhesive, cutting and packaging of the large roll into sales units occurs then in production location #3. The units are packed and loaded onto pallets for further transport. The transportation of raw materials for packaging as well as the transportation of the semi-finished products to all production locations is modelled in Module A2.

A3. Manufacturing

- Manufacturing of the defined adhesive tape occurs in Germany.
- The production of the large adhesive tape roll is done in the production location #1, by bonding and laminating the polymers and the non-woven. The rolls are cut into sale units, after printing and confection in the production location #2. The products are then packed on pallets for further transportation.
- Treatment of waste generated from the manufacturing processes is included in the model. The model includes processing up to the end-of-waste status or disposal of final residues including any packaging not leaving the factory gate. Resulting credits are assigned to module D.
- Electricity for production in module A3 is modelled with the German Residual electricity mix.

A5. Construction Installation

- The adhesive tape is installed by removing the release paper and securing the overlapped membranes in place.
- The packaging waste resulting from the installation of the product on the construction site is sent for waste treatment.
- The expenses for installation and the transport expenses for disposal are taken into account in module A5.
- The incineration of packaging waste receives credits for electricity and thermal energy generation, which are allocated in module D.

C1-C4. End of Life

- The adhesive tape is treated as waste in module C3 by means of incineration with energy recovery.
- Module C2 contains the environmental impact of transportation of the product to the waste treatment plant.
- Module C3 contains the necessary processes for waste treatment at the end of the product life cycle.
- The loads for waste treatment are mapped here until the end of the waste property is reached.
- Emissions are assigned to module C3. Resulting credits are assigned to module D.

D. Reuse, recovery, recycling potential

- This product has no considerable benefits due to recycling or/and reuse, but considerable benefits from energy recovery in End of Life.
- The value flows resulting from the treatment of packaging waste in module A3, packaging waste in module A5 and the product in module C3, which can potentially serve as energy input for a downstream product system in the form of the energy recovered from the waste-to-energy treatment, are accounted for completely in module D as credits outside of product system.

More information

- Additional information can be found by contacting pro clima at info@proclima.com
- LCA practitioner: brands & values GmbH, info@brandsandvalues.com

Electricity in A1-A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3. The energy requirements for production were modelled using the Residual electricity mix of the electricity supplier on the market. In this case the LCA for Experts dataset of [Residual grid mix: AC, technology mix: consumption mix, to consumer: <1kV](#) in Germany from the reference year 2022. The climate impact of the dataset is 0.847 kg CO₂ eq./kWh (using the GWP-GHG indicator). A residual mix represents the production mix of a country corrected with generation attributes which are explicitly tracked. Residual mix is used to determine the energy origin of untracked consumption, i.e. consumption, which has not been disclosed with explicit tracking instruments such as Guarantees of Origin. The Residual grid mix in question includes the following energy sources: 1.8% from renewable sources, 18.17% from nuclear, 34.57% from lignite, 21.19% from coal, 20.88% from gas, 1.08% from oil and 2.32% from non-specific fossil sources according to the LCA for Experts dataset.

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

	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	DE	DE	DE		GLO								GLO	GLO	GLO	GLO	GLO
Specific data used	8%																
Variation – products	0%																
Variation – sites	0%																

Modules declared: (X = included; ND = not declared).

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Paper	0.100	0.0%	0.2%- 0.036 kg C/kg
Reinforcement (PP)	0.006	0.0%	0%- 0 kg C/kg
Additives and adhesives	0.200	0.0%	0%- 0 kg C/kg
Printing Ink	0.002	0.0%	0%- 0 kg C/kg
Total product	0.308	0.0%	0%- 0 kg C/kg
Packaging materials	Weight, kg	Weight-% (relative to the product)	Weight biogenic carbon, [kg C/kg]
Film (PE)	0.037	7.5%	0 kg C/kg
Film (PP)	0.002	0.3%	0 kg C/kg
Cardboard	0.042	8.5%	0.017 kg C/kg
Paper	0.080	16.1%	0.029 kg C/kg
Pallet	0.028	5.6%	0.014 kg C/kg
Total packaging	0.188	38.0%	0.06 kg C/kg
TOTAL Product with packaging	0.496	100%	0.06 kg C/kg

The biogenic carbon content of product and packaging is 0.221 kg CO₂ eq. per declared unit.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
None	Not applicable	Not applicable	Not applicable

Environmental information

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. According to the EN 15804 standard, the characterization factors of EU-JRC must be applied. The EN 15804 reference package based on EF 3.1. was used for the LCA calculations. The characterization factors are available at the following internet connection: <http://epca.jrc.ec.europa.eu/LCDN/developerEF.xhtml>

Disclaimer: The use of the results of modules A1-A3 is discouraged without considering the results of modules C1-C4

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit								
Indicator	Unit	Tot. A1-A3	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	1.02E+00	1.24E-01	0.00E+00	2.32E-03	4.64E-01	0.00E+00	-3.63E-01
GWP-biogenic	kg CO ₂ eq.	1.33E-01	1.76E-05	0.00E+00	7.18E-06	-1.31E-01	0.00E+00	-1.94E-03
GWP-luluc	kg CO ₂ eq.	1.61E-03	2.20E-05	0.00E+00	3.80E-05	3.50E-06	0.00E+00	-3.50E-05
GWP-total	kg CO ₂ eq.	1.15E+00	1.24E-01	0.00E+00	2.36E-03	3.33E-01	0.00E+00	-3.65E-01
ODP	kg CFC 11 eq.	6.35E-11	2.23E-14	0.00E+00	3.33E-16	5.37E-14	0.00E+00	-3.53E-12
AP	mol H+ eq.	2.49E-03	4.61E-05	0.00E+00	3.91E-06	8.91E-05	0.00E+00	-3.78E-04
EP-freshwater	kg P eq.	5.84E-06	1.09E-08	0.00E+00	9.66E-09	1.30E-08	0.00E+00	-6.71E-07
EP-marine	kg N eq.	6.76E-04	1.52E-05	0.00E+00	1.55E-06	2.82E-05	0.00E+00	-1.18E-04
EP-terrestrial	mol N eq.	7.07E-03	2.13E-04	0.00E+00	1.80E-05	4.21E-04	0.00E+00	-1.27E-03
POCP	kg NMVOC eq.	2.08E-03	4.09E-05	0.00E+00	3.83E-06	7.73E-05	0.00E+00	-3.31E-04
ADP-minerals&metals	kg Sb eq.	1.06E-06	3.35E-10	0.00E+00	1.97E-10	5.61E-10	0.00E+00	-3.26E-08
ADP-fossil*	MJ	2.40E+01	6.48E-02	0.00E+00	2.98E-02	1.19E-01	0.00E+00	-6.31E+00
WDP	m ³	1.13E-01	2.52E-02	0.00E+00	3.50E-05	6.27E-02	0.00E+00	-3.40E-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 or declared unit								
Indicator	Unit	Tot. A1-A3	A5	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	1.02E+00	1.24E-01	0.00E+00	2.36E-03	4.64E-01	0.00E+00	-3.63E-01
PM	Disease incidence	ND	ND	ND	ND	ND	ND	ND
IR	kBq U235 eq.	ND	ND	ND	ND	ND	ND	ND
ETP-fw	CTUe	ND	ND	ND	ND	ND	ND	ND
HTP-c	CTUh	ND	ND	ND	ND	ND	ND	ND
HTP-nc	CTUh	ND	ND	ND	ND	ND	ND	ND
SQP	dimensionless	ND	ND	ND	ND	ND	ND	ND
Acronyms	GWP-GHG = 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 CO ₂ is set to zero; PM = Particulate matter emissions; IR = Ionizing radiation, human health; ETP-fw = Eco-toxicity - freshwater; HTP-c = Human toxicity, cancer effect; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality							

¹ 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 almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Resource use indicators

Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
PERE	MJ	6.88E+00	1.50E-02	0.00E+00	2.57E-03	1.53E+00	0.00E+00	-2.21E+00
PERM	MJ	1.50E+00	0.00E+00	0.00E+00	0.00E+00	-1.50E+00	0.00E+00	0.00E+00
PERT	MJ	8.38E+00	1.50E-02	0.00E+00	2.57E-03	3.36E-02	0.00E+00	-2.21E+00
PENRE	MJ	2.25E+01	6.48E-02	0.00E+00	2.98E-02	1.62E+00	0.00E+00	-6.31E+00
PENRM	MJ	1.50E+00	0.00E+00	0.00E+00	0.00E+00	-1.50E+00	0.00E+00	0.00E+00
PENRT	MJ	2.40E+01	6.48E-02	0.00E+00	2.98E-02	1.19E-01	0.00E+00	-6.31E+00
SM	kg	1.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-03
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	3.87E-03	5.92E-04	0.00E+00	2.86E-06	1.47E-03	0.00E+00	-1.52E-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							

Waste indicators

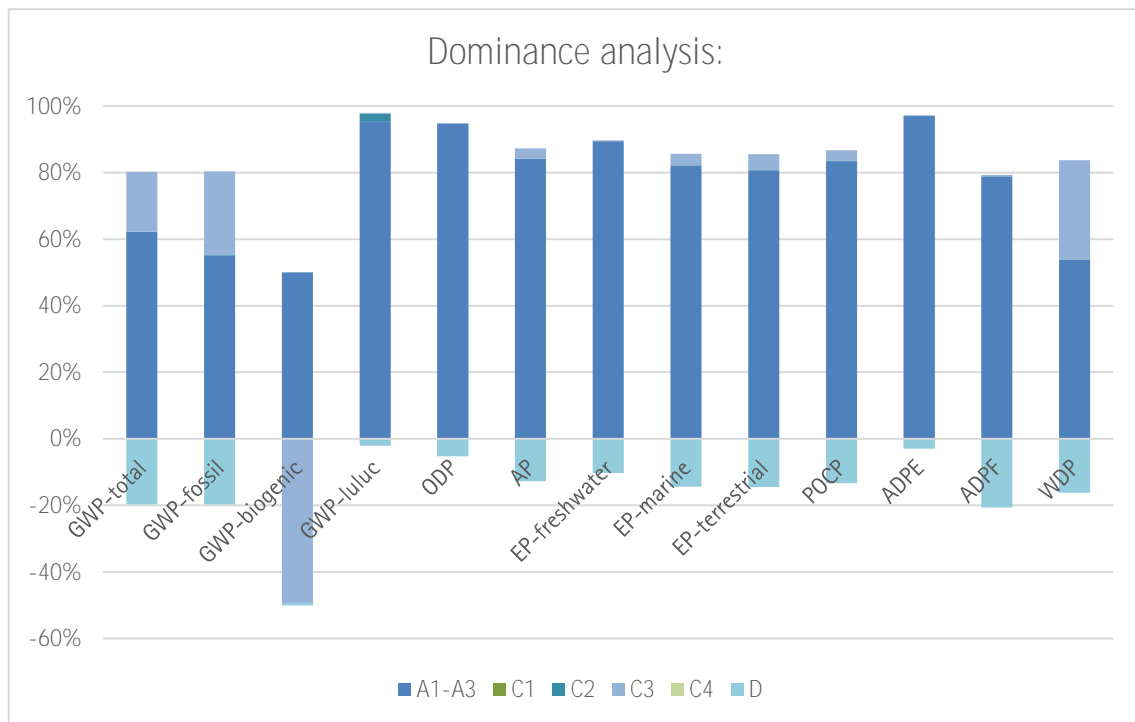
Results per functional or declared unit								
Indicator	Unit	A1-A3	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	8.96E-05	2.91E-11	0.00E+00	1.14E-12	6.99E-11	0.00E+00	-4.58E-09
Non-hazardous waste disposed	kg	1.84E-02	4.08E-03	0.00E+00	4.87E-06	6.99E-03	0.00E+00	-3.35E-03
Radioactive waste disposed	kg	3.48E-04	2.58E-06	0.00E+00	5.43E-08	6.50E-06	0.00E+00	-4.35E-04

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	9.40E-04	4.20E-02	0.00E+00	0.00E+00	0.00E+00	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	2.33E-01	4.27E-01	0.00E+00	0.00E+00	1.01E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	5.41E-01	7.67E-01	0.00E+00	0.00E+00	1.80E+00	0.00E+00	0.00E+00

Interpretation

The following dominance analysis show the individual impact categories and explore them in depth.



The environmental impacts were analysed using the example of global warming potential (GWP total) to identify the responsible sources along the life cycle. Modules A1-A3 (70.8%) has dominant influence followed by Module C3 (20.5%) on GWP total and fossil. The main source of GWP impact is the production of the specialised adhesives found in the product. The production of adhesives causes the highest environmental impact in all main categories, only surpassed in the GWP-luluc and EP-freshwater by the production of the paper backing.

Transportation of raw materials to and between the manufacturing sites (A2) and disposal transportation of the product in EoL (C2) are not very relevant in terms of GWP total.

The incineration of the adhesives at End-of-Life in Module C3 is the second highest contributor of GWP-fossil and WDP.

The data quality of the relevant generic datasets used is classified as very good, good or satisfactory. Relevant data sets are defined as data sets that together account for at least 80% of the absolute impact of each core indicator included in the EPD across the declared modules except for Module D.

The variation of the environmental impact indicator results for modules A to C between the included products is 0%.

References

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