Environmental Product Declaration

By ISO 14025 and EN 15804 for:

Airfelt - air filtration, sound absorbing, thermal insulation

CE Produkter AB

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-04908
Publication date:	2022-02-28
Valid until:	2027-01-24



Programme information

Programme:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com

Product category rules (PCR): pcr2019-14 Construction products v1.11 and UN CPC code(s)> 37990 and 37129. Together with EN 15804:2012+A2:2019, The LCA system is defined by Sub-PCR-C Acoustical Systems solutions PCR 2012-01-Sub-PCR-C (updated to last 2021 out). VERSION 2020-09-18. Updated validity to 2021-12-31
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
The Technical Committee of the International EPD® System conducted a PCR review. Chair: Massimo Marino. Contact via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third-party verifier: Dr Hüdai Kara, hudai.kara@metsims.com, Metsims Sustainability Consulting Approved by: The International EPD® System
The procedure for follow-up of data during EPD validity involves a third-party verifier: ☐ Yes ☒ No

The EPD owner is the sole owner, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804.

Company information

Owner of the EPD:
CE Produkter AB Hantverksgatan 2 314 52 Unnaryd. joakim@ceprodukter.se. +46 705468551.

Description of the organisation:
CE-Produkter is an industrial production unit in Unnaryd in southern Småland, Sweden. They produce wadding of different thicknesses, densities, and areas of use. Airfelt is used for Sound attenuation, Thermal insulation, Upholstery in beds and furniture, Air purification, etc. The products' raw material primarily consists of recycled PET Bottles and can be 100% reused.

Product-related or management system-related certifications:
ISO 9001- and 14001-certificates, CE BEEHIVE
Name and location of production site: CE Produkter AB Hantverksgatan 2 314 52 Unnaryd SWEDEN

Product information

Product name: AIRFELT
Product identification: 1kg with a density of 1600 kg/m2 sound insulation class A.
Product Description: Air filtration, sound absorbing, thermal insulation, upholstery
UN CPC code: 37990 and 37129
Geographical scope: Europe (market), Sweden (production)

Content Declaration

Product

Product Components	Weight (kg)	Post-consumer material (weight-%)	Renewable material (weight-%)
Polyester polyetylentereftalat (PET)	1	50%	0

For construction product EPDs compliant with EN 15804, the content declaration shall list, as a minimum, substances contained in the products that are listed in the “Candidate List of Substances of Very High Concern for Authorization” when their content exceeds the limits for registration with the European Chemicals Agency.

Packaging

Distribution packaging: Wood EU pallets 143 grams per 1 kg of products. The biogenic content in packaging is 0,143 kg per kg Airfelt.

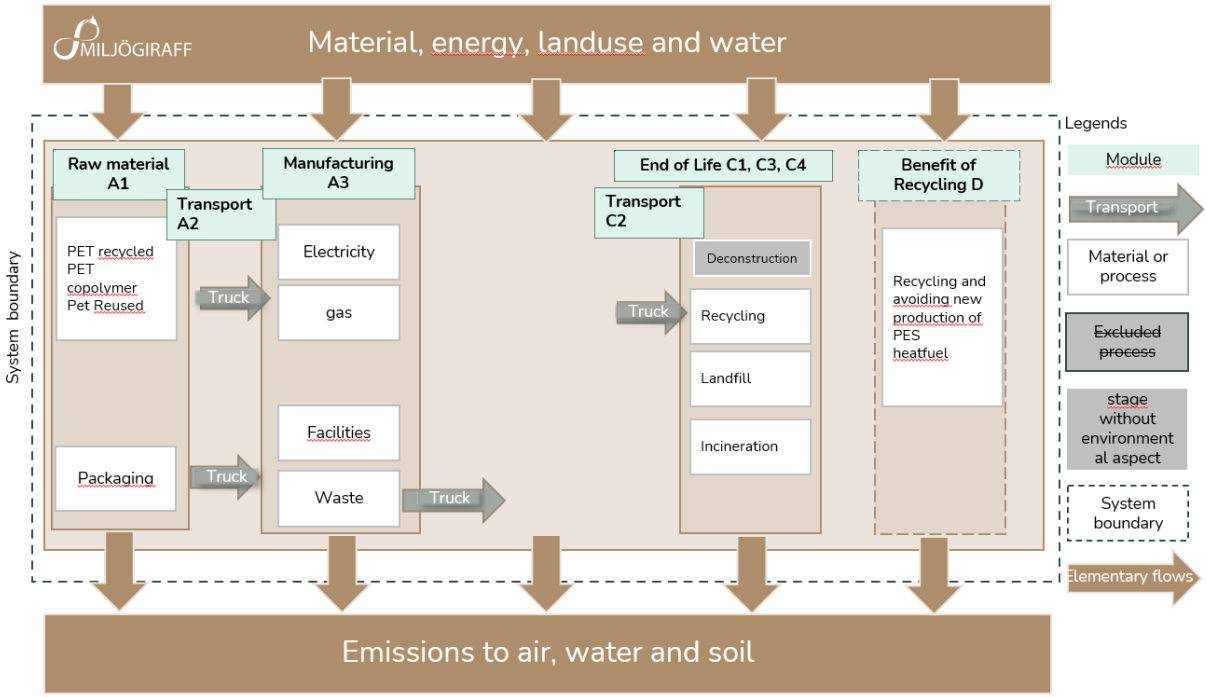
Recycled material

The provenience of recycled materials pre-consumer in the product: 50% of the raw material is from polyethylene terephthalate, granulate, amorphous, and recycled 100%, Wellman International Ltd. Irland.

LCA information

The complete Life Cycle Assessment report (Wendin, 2021) **is available to the EPD verifier.**

Declared Unit	1 kg of Airfelt
The function	Air filtration, sound absorbing, thermal insulation, upholstery
Product group classification	37990 and 37129
Scope	Cradle-to-grave and module D (A, B, C and D).
Time	Data represent the year 2020
Manufacturing Site	CE Produkter AB Hantverksgatan 2 314 52 Unnaryd Sweden
Geographical Area	Sweden represents Europe's disposal.
Compliant with	The methodology follows the General program instructions for the International EPD System (EPD International, 2021b), PCR 2019:14 version 1.11 (EPD International, 2021a). These are in line with the international standards for LCA that apply to this context: EN15804:2012+A2:2019 (CEN, 2019), ISO 14025 (ISO, 2006a), ISO 14040 (ISO, 2006b), and 14044 (ISO, 2006c).
Cut-Off Rules	The procedure below is followed for the exclusion of inputs and outputs according to the EN 15804:2012+ A2:2019 standard: No cut-offs have been made concerning specific data in this study.
Background Data	Ecoinvent 3.7 - allocation, Cut off.
Foreground Data -primary	Weight of articles and composition of raw materials. Suppliers' location for transport. Packaging, rest materials, electricity, heat and waste. Customers distance for distribution to the client. Disposal scenario.
Foreground Data -specific	Manufacturing at CE Produkter AB. The data was collected in interviews and through the completion of an Excel template (Schulz, n.d.). Also, a previous internal study was used as a reference to the measurement of electricity consumption and process description (Eliasson, 2019).
Electricity data	Electricity consumption in the A3 module is Goo-certified hydropower, represented by data for national hydropower production in Ecoinvent 3.7 regionalised for Sweden.
LCA software	SimaPro 9.2



	Material		Manufacturing & Transportation			Use							End of life				Reuse
	Raw material	Transport	Manufacturing	Transport	Installation	Use	Maintenance	Repair	Replacement	Renovation	Energy during use	Water use	Demolition	Transport	Waste process	Final disposal	Potential benefit in recycling
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Module declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Data Generic (G)/Specific (S)	G	G	S										G	G	G	G	G

Modules declared: (X = included, ND = not declared),

Environmental performance 1kg Airfelt

Potential environmental impact[1]

Impact category	Unit	A1	A2	A3	C1	C2	C3	C4	D
Climate change	kg CO2 eq	1,75	0,10	0,04	x	0,03	2,03	x	-0,74
Climate change - Fossil	kg CO2 eq	1,65	0,10	0,04	x	0,03	2,03	x	-0,06
Climate change - Biogenic	kg CO2 eq	0,10	0,00009	-0,00242	x	0,00002	0,00012	x	-0,687
Climate change - Land use and LU change	kg CO2 eq	0,00119	0,00005	0,00012	x	0,0000024	0,0000036	x	-0,000662
Ozone depletion	kg CFC11 eq	4,2E-06	2,1E-08	2,6E-09	x	5,6E-09	1,7E-09	x	-1,6E-08
Acidification	mol H+ eq	6,5E-03	1,7E-03	3,1E-04	x	1,6E-04	4,6E-04	x	-2,2E-03
Eutrophication, freshwater	kg PO4 eq	0,00142	1,61E-05	3,14E-05	x	1,45E-06	7,04E-06	x	-4,86E-05
Eutrophication, freshwater	kg P eq	4,63E-04	5,24E-06	1,02E-05	x	4,74E-07	2,29E-06	x	-1,58E-05
Eutrophication, marine	kg N eq	1,62E-03	4,20E-04	5,10E-05	x	6,50E-05	2,84E-04	x	-6,41E-04
Eutrophication, terrestrial	mol N eq	0,013	0,005	0,001	x	0,001	0,002	x	-0,011
Photochemical ozone formation	kg NMVOC eq	0,0078	0,0013	0,0002	x	0,0003	0,0006	x	-0,0018
Resource use, minerals and metals	kg Sb eq	1,32E-05	1,78E-07	5,86E-07	x	2,27E-08	4,54E-08	x	-1,85E-07
Resource use, fossils	MJ	30,9	1,4	0,6	x	0,3	0,1	x	-0,7
Water use	m3 depriv.	0,791	0,004	0,012	x	0,0003	0,003	x	-0,008
Particulate matter	disease inc.	5,86E-08	5,52E-09	3,49E-09	x	3,46E-09	2,81E-09	x	-3E-08
Ionising radiation	kBq U-235 eq	0,154	0,006	0,002	x	0,002	0,001	x	-0,006
Ecotoxicity, freshwater	CTUe	3,1E+01	1,0E+00	7,8E-01	x	1,9E-01	5,9E-01	x	-2,2E+01
Human toxicity, cancer	CTUh	9,8E-10	5,0E-11	7,7E-11	x	3,8E-12	3,4E-10	x	-2,7E-10
Human toxicity, non-cancer	CTUh	1,5E-08	8,3E-10	5,6E-10	x	1,3E-10	4,5E-09	x	-8,9E-09
Land use	Pt	4,6E+00	9,4E-01	1,1E+00	x	6,1E-02	4,0E-02	x	-4,6E+01

[1] For the impact category Eutrophication, freshwater, the result per unit kg P is used as basis for calculating the result per unit kg PO4 eq, using the factor 3,07 (weight) as required in the characterization model EUTREN, St ruijs et al. 2009b, as implemented in ReCiPe.

Climate change as GWP (IPCC)

Impact category	Unit	A1	A2	A3	C1	C2	C3	C4	D
IPCC GWP 100a	kg CO2 eq	1,65E+00	9,48E-02	3,87E-02	x	2,53E-02	2,03E+00	x	-5,44E-02

Use of resources

	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1,5	0,0	-2,4	0,0	0,0	0,0	0,0	-10,9
PERM	MJ	0,0	0,0	2,6	0,0	0,0	0,0	0,0	0,0
PERT	MJ	1,5	0,0	0,2	0,0	0,0	0,0	0,0	-10,9
PENRE	MJ	13,3	1,5	0,5	0,0	0,4	0,1	0,0	-0,7
PENRM	MJ	20,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0
PENRT	MJ	33,3	1,5	0,6	0,0	0,4	0,1	0,0	-0,7
SM	Kg	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
RSF	MJ	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
NRSF	MJ	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FW	M3	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Legend:

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 resources.
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 production and output flows

Final waste and output flows refer to flows that are leaving the system of the LCA. Only elementary flows (substances) leave the system in this LCA.

The waste (plastic) from suppliers is going to municipal incineration with heat recovery. That is also the assumed end of life for the product. These waste treatments are included in the model. Thus, there is no final waste to declare.

Biogenic carbon content

Share of biogenic carbon	Unit	Amount
Biogenic carbon in the product	kg C	0,0
Biogenic carbon in the packaging	kg C	0,06 [2]

[2] 0,143 kg pallets*0,429 kg/product.

References

CEN. (2019). *EN 15804:2012+A2:2019 (E)*.

Eliasson, J. (2019). *Koldioxidutsläpp Beräknat på Linje 1*.

EPD International. (2021a). *CONSTRUCTION PRODUCTS PCR 2019:14 VERSION 1.11*.

EPD International. (2021b). *General Programme Instructions for the International EPD® System. Version 4.0*.

ISO. (2006a). *ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures*.

ISO. (2006b). *ISO 14040:2006, Environmental management — Life cycle assessment — Principles and framework*. 1–28.

ISO. (2006c). *ISO 14044:2006, Environmental management — Life cycle assessment — Requirements and guidelines*. https://doi.org/10.1007/s11367-011-0297-3

Schulz, M. (n.d.). *LCI data collect Airfelt* (Vol. 2019).

Wendin, M. (Miljögiraff ab). (2021). *952 LCA of Airfelt*. https://doi.org/10.4324/9781315778730