

Environmental Product Declaration



In accordance with ISO 14025 for:

Karat RE

from

AB Ludvig Svensson



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

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-03359
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Valid until:	2028-05-16



Programme information

Programme:	<p>The International EPD® System</p> <p>EPD International AB Box 210 60 SE-100 31 Stockholm Sweden</p> <p>www.environdec.com info@environdec.com</p>
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EPDs within the same product category but from different programmes 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.

AB Ludvig Svensson has the sole ownership, liability and responsibility of this EPD

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
PCR: <i>Fabrics 2022:04 (1.01)</i>
PCR review was conducted by: <i>The Technical Committee of the International EPD® System. A full list of members is available at www.environdec.com. The review panel may be contacted via info@environdec.com. Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.</i>
Life Cycle Assessment (LCA)
LCA accountability: <i>Pierre Halldén, AB Ludvig Svensson</i>
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
<input checked="" type="checkbox"/> EPD verification by individual verifier
Third-party verifier: <i>Martyna Mikusinska, Sweco</i>
Approved by: <i>The International EPD® System</i>
Procedure for follow-up of data during EPD validity involves third-party verifier:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Differences versus previous versions

2022-01-03 version1

2023-05-19 Version 2

Updated to the new PCR for fabrics. Karat RE is the only article left, we do not manufacture Karat anymore.

Company information

Owner of the EPD: AB Ludvig Svensson, Bangatan 8 511 54 Kinna, Sweden, +46320209200, info@ludvigsvensson.com

Description of the organisation:

AB Ludvig Svensson specializes in textile climate solutions giving plants better conditions to grow and people better places to work, travel, meet, recover and study. By sharing knowledge and being close to our customers, we are a business partner to trust. Our headquarter and production is located in Kinna, Sweden provides unique opportunities to influence, develop, control, and own the entire manufacturing process from the raw materials used to the finished product. Svensson was founded in 1887 and has operations in seven countries and 400 employees around the world.

Product-related or management system-related certifications:

ISO 9001:2015, ISO 14001:2015, Oeko-tex 100 class IV and EU ecolabel

Name and location of production site:

AB Ludvig Svensson, Kinna, Sweden.

Product information:

Name: Karat RE

Declared unit: 1 m² and its packaging (the area of the packaging is not included in this 1 m²).

Product identification: 8500

Product description: Fabric for curtains, made from polyester, warranty times 5 years (exchange rate is probably longer).

Certified according to:

Oeko-tex 100 class IV¹, this ensures that Karat does not contain any harmful substances.

EU ecolabel ², The EU Ecolabel for textile products guarantees a more sustainable fibre production, a less polluting production process, strict restrictions on the use of hazardous substances, and a long-lasting final product.

[KARAT RE | Hanging fabrics | Products | Svensson \(ludvigsvensson.com\)](#)

¹ STANDARD 100 by OEKO-TEX[®]

² [EU Ecolabel - Clothing and Textiles \(europa.eu\)](http://europa.eu)

Recycled material:

Karat RE is made of 100% recycled yarn (pre-consumer)

Other product information:

UN CPC code: 2674

(KN number 551219)

Geographical scope:

Sweden

System diagram

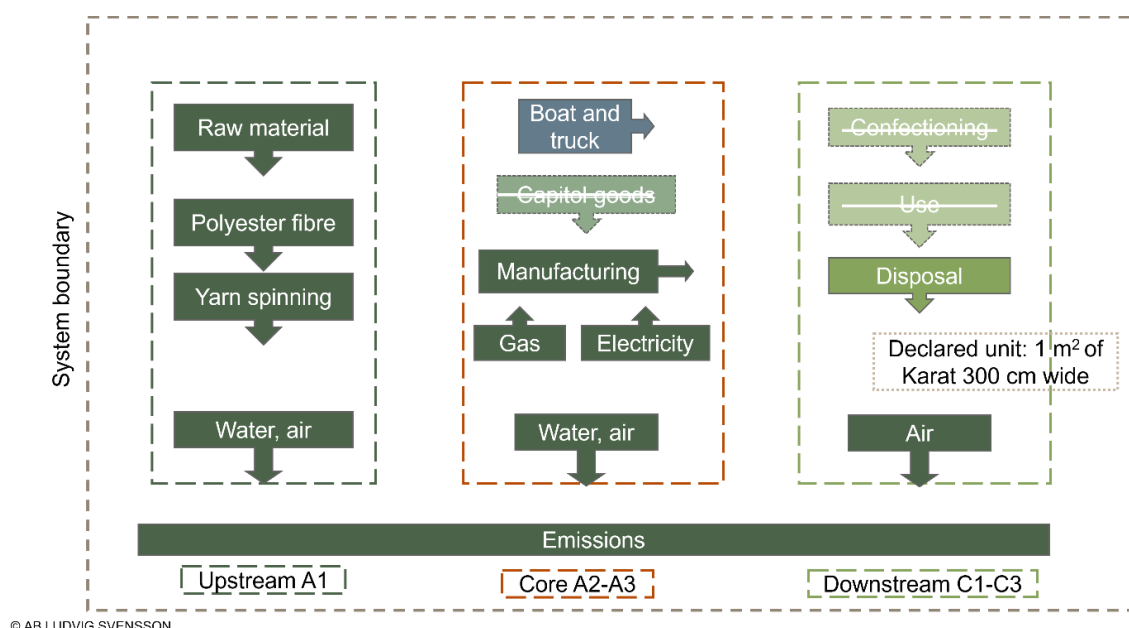


Figure 1. System diagram of Karat RE

Table 1. Product characteristics

PRODUCT CHARACTERISTICS	
FABRICS	Karat RE
CONSTRUCTIVE CHARACTERISTICS	
Composition Regulation (EU) No 1007/2011	100 % recycled polyester (PES)
Weave	Woven fabrics ISO 3572:1976
Mass per unit area [g/m2] ISO 3801 EN 12127	150
Width [cm]	300
DYEING	
Colour Index	8500

PERFORMANCE CHARACTERISTICS	
Dimensional change to washing UNI EN ISO 105 C06:2010	5
COLOUR FASTNESS	
Light Xenon test UNI EN ISO 105 B02/04	6
Washing with mild detergent at 40°C ISO 105 C10:2006	5
Water UNI EN ISO 105 E01/98	4-5
Acid and alkaline perspiration UNI EN ISO 105 E04:2013	5
Dry and wet rubbing UNI EN ISO 105 X12/03	DRY 5 WET 5

LCA information

Declared unit: 1m² and its packaging (the area of the packaging is not included in this 1 m²).

Reference service life: N/A

Time representativeness: Core data from 2022, upstream data from 2017, downstream is generic data (only transport to customer (2009-2020) and disposal).

Database(s) and LCA software used:
SimaPro Eco invent 3.8 (allocation, cut-off by classification), SimaPro Version 9.4

Data quality:
Share of specific data is 73 % and generic data is 27%. Proxy data is not used.

System diagram: According to PCR

Description of system boundaries:
Cradle-to-gate with module C1-C3

Excluded lifecycle stages: Forming stage (A4-A5) and use stage (B1-B2) are excluded due to very low emissions and also an uncertainty how the fabric is used.

More information

Some general assumptions have been made around transport vehicle to fit the database data from Ecoinvent 3.8 (compiled november

2021). Country electricity mix datasets have been used for electricity for the upstream processes when the sites reports that they use the country electricity net.

Generally, the LCA data should be used with precaution if interpreted for any other purpose than this EPD.

Emissions from wastewater is from entire production site in Kinna, dyeing and finishing of textiles of wool and polyester yarn and fabrics.

Waste from core process is allocated from all production.

LCA methodology

Cut-off rules: Less than 1% environmental relevance.

Allocation rules: In this assessment physical allocation is done as far as possible. When other allocations are used, it is expressed if it may be significant to the results.

LCA practitioner

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Content declaration

Product

The raw materials and packaging does not contain substances that are regulated in the Reach legislation and SVHC and the Candidate List of SVHC.

Table 2. Product components for Karat RE.

Product components	Weight (kg)	Post-consumer material (weight-%)	Renewable material (weight-%)
Polyester yarn	0,1495	100%	0
Dye stuff	0,00075	0	0

Packaging materials	Weight (kg)	Weight-% (versus the product)	Renewable material (weight-%)
Cardboard box	0,057	100	100
Plastic wrapping (Polyethylene)	0,004	10	0
Paper tubes	0,005	Reuse 3 times	100

Packaging

Distribution packaging: The finished fabric is either folded or rolled. 70% folding, folded into a cardboard box, 30% on paper roll with plastic wrapping.

Consumer packaging: N/A

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product: In Karat RE, 100% is pre consumer recycled. 100% of the cardboard is recycled. 10% of the plastic wrapping comes from recycled source. Paper tubes are reused three times with Svensson customer.

Environmental performance

Potential environmental impact

Below is the environmental impact for the Karat and Karat RE per functional unit and per life cycle stage.

Table 4. Impact categories according to PCR on Karat RE

PARAMETER		UNIT	A1 Upstream	A2 Transport	A3 Manufacturing	C1 Operations for separation of product components	C2 Transport to final disposal	C3 Final disposal	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	8,09E-01	4,57E-02	2,39E-01	0	2,09E-03	1,85E-01	1,28E+00
	Biogenic	kg CO ₂ eq.	3,31E-02	1,58E-05	3,22E-03	0	2,66E-07	3,96E-04	3,67E-02
	Land use and land transformation	kg CO ₂ eq.	4,49E-04	1,84E-05	3,91E-04	0	1,84E-07	1,11E-06	8,60E-04
	TOTAL	kg CO ₂ eq.	8,42E-01	4,57E-02	2,43E-01	0	2,09E-03	1,86E-01	1,32E+00
Ozone layer depletion (ODP)		kg CFC 11 eq.	3,38E-03	2,41E-04	1,00E-03	0	1,27E-05	4,93E-05	4,69E-03
Acidification potential (AP)		kg mol H ⁺ eq.	3,58E-04	2,87E-06	7,11E-05	0	3,11E-08	1,73E-06	4,34E-04
Eutrophication potential (EP)	Aquatic freshwater	kg P eq	7,91E-04	6,94E-05	2,70E-04	0	5,41E-06	3,25E-05	1,17E-03
	Aquatic marine	kg N eq	6,94E-03	7,61E-04	2,53E-03	0	5,94E-05	2,53E-04	1,05E-02

	Aquatic terrestrial	mol N eq	2,03E-03	2,24E-04	6,99E-04	0	2,09E-05	6,40E-05	3,04E-03
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	9,99E-08	1,05E-08	5,26E-08	0	4,52E-10	2,81E-10	1,64E-07
Abiotic depletion potential (ADP)[1]	Metals and minerals	4,42E-05	1,99E-06	1,54E-07	1,50E-06	0	1,77E-09	8,15E-09	3,66E-06
	Fossil resources	4,99E+01	1,25E+01	6,86E-01	8,92E+00	0	2,76E-02	2,30E-02	2,22E+01
Water deprivation potential (WDP)		m ³ world eq.	3,10E-01	2,02E-03	1,34E-01	0	1,42E-05	1,83E-03	4,48E-01

The environmental impact of polyester fabric in a lifecycle perspective, comes mostly from the production of raw material. The difference between Karat and Karat RE is that the polyester is 100% recycled in Karat RE. Therefore, the largest environmental impact is in the upstream process.

Use of resources

The indicators below are declared for each life cycle state for Karat RE.

Table 6. Values from CED method 1.11, water from AWARE v1.04 for Karat RE

PARAMETER	UNIT	A1 Upstream	A2 Transport	A3 Manufacturing	C1 Operations for separation of product components	C2 Transport to final disposal	C3 Final disposal	TOTAL	
Primary energy	Use as energy carrier	MJ, net calorific value	2,38E+00	9,47E-03	4,20E+00	0,00E+00	3,10E-04	8,90E-04	6,59E+00

resources – Renewable	Used as raw materials	MJ, net calorific value	0	0	0	0	0	0	0
	TOTAL	MJ, net calorific value	2,38E+00	9,47E-03	4,20E+00	0,00E+00	3,10E-04	8,90E-04	6,59E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	2,27E+01	7,28E-01	5,24E+00	0,00E+00	6,15E-02	2,48E-02	2,87E+01
	Used as raw materials	MJ, net calorific value	0	0	0	0	0	0	0
	TOTAL	MJ, net calorific value	2,27E+01	7,28E-01	5,24E+00	0,00E+00	6,15E-02	2,48E-02	2,87E+01
Secondary material	kg		0	0	0	0	0	0	0
Renewable secondary fuels	MJ, net calorific value		0	0	0	0	0	0	0
Non-renewable secondary fuels	MJ, net calorific value		0	0	0	0	0	0	0
Net use of fresh water	m ³		5,07E-01	2,03E-03	4,68E-02	0	1,50E-05	1,80E-03	5,58E-01

Waste production and output flows

Waste is included in the LCA model. There are no waste output flows outside the boundary system. That's why the values are zero.

References

- General Programme Instructions of the International EPD® System. Version 4.0 2021-03-29
- PCR for fabrics 2022:04 issued 2022-08-24

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- ISO 14025:2010 Miljömärkning och miljödeklarationer - Typ III miljödeklarationer - Principer och procedurer (ISO 14025:2006)
 - Life cycle assessment of Karat by Ludvig Svensson AB, 2021-12-17 (updated 2023-02-24)
 - Marcus Wendin, LCA expert Miljögiraff

