

# Environmental Product Declaration



Global Program Operator

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In accordance with ISO 14025 and Product Category Rules for Furniture

## AREA and AREA SILK

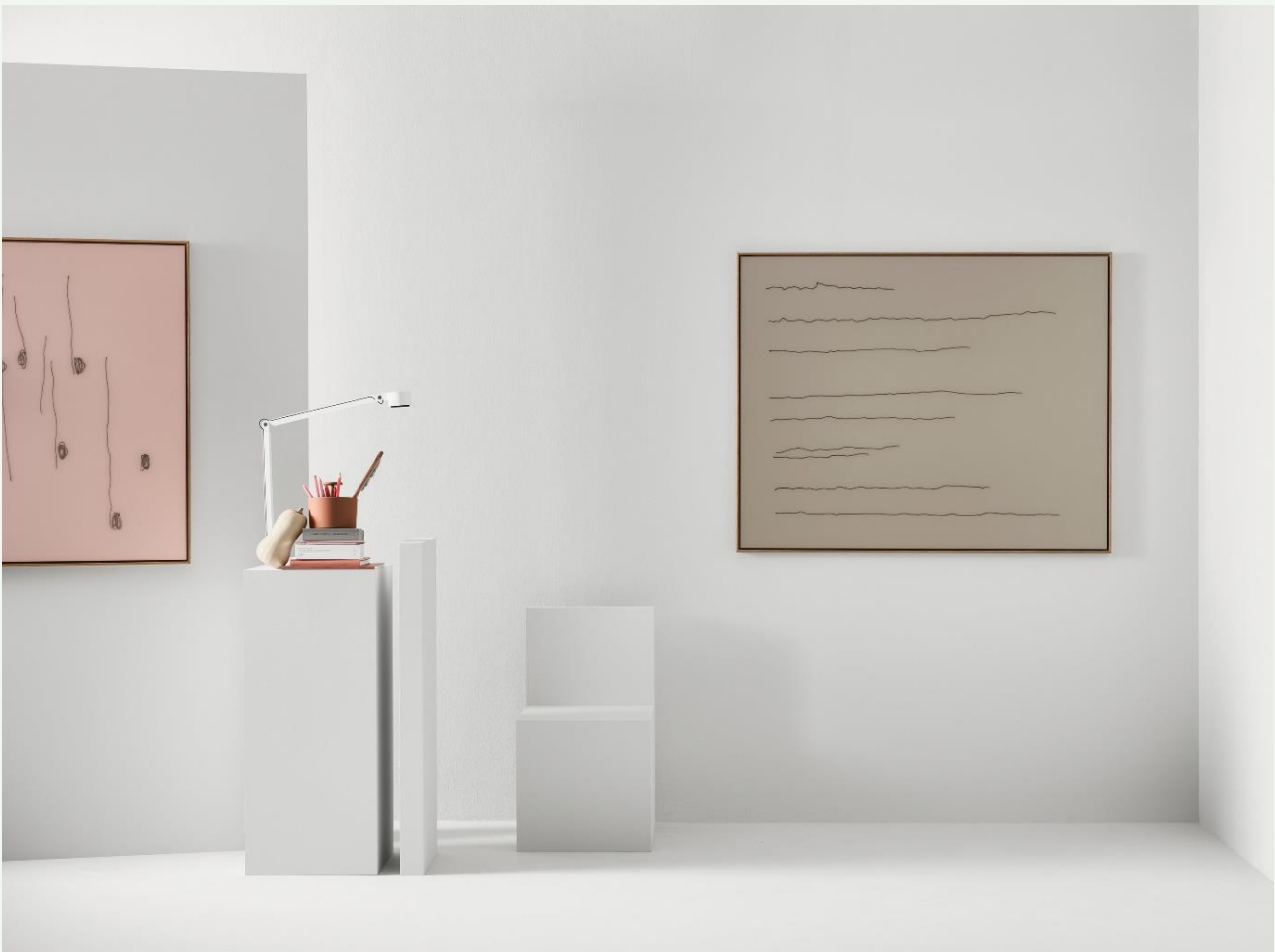
from

# LINTEX

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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).



## Programme information

<b>Programme:</b>	<p>The International EPD<sup>®</sup> System</p> <p>EPD International AB Box 210 60 SE-100 31 Stockholm Sweden</p> <p><a href="http://www.environdec.com">www.environdec.com</a> <a href="mailto:info@environdec.com">info@environdec.com</a></p>
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Product category rules (PCR): <i>Furniture, Except seats and mattresses 2012:19 version 2.01 valid until 2023-06-17</i>
PCR review was conducted by: <i>PCR Committee: Arper PsA Srl Moderator: Leo Breedveld, 2B Srl</i>
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: <i>David Althoff Palm, Ramboll Sweden AB, david@dalemarken.se</i>  <i>Approved by: The International EPD<sup>®</sup> System</i>
Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" 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.

## Company information

### Owner of the EPD:

LINTEX AB  
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382 45 Nybro

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Description of the organisation: Lintex is a Swedish producer of innovative writing boards and sound absorbing office screens, designed to inspire people to do great work, in offices, schools and institutions all over the world. Together with some of Scandinavia's leading designers and by using durable materials, such as tempered glass, high end textiles, solid wood, and enamelled steel, LINTEX creates well designed, functional products, made to last for a long time

LINTEX is a family business founded in 1983. Head office and factory are located in the town of Nybro in southern Sweden. LINTEX have subsidiaries, sales offices and agents elsewhere in Scandinavia, Europe and various parts of the world.

Working sustainably is a key element of LINTEX's strategy, culture and day-to-day operations. LINTEX understands that sustainability requires transformation. This means finding new ways of thinking and new innovative solutions. LINTEX has started the journey towards circular products with net zero climate impact. As of 2022 the production in Nybro is a net producer of renewable energy, thanks to geothermal heating and over 4200 solar panels on the factory roof.

Management system-related certifications: LINTEX has been certified according to ISO 14001 since 2009. The company is also certified according to the FSC-STD-40-004 Chain of Custody Certification standard, certificate code DNV-COC-002282.

LINTEX Supplier code of conduct sets the scope for the company's supply chain management. LINTEX China is a member of the organization Sedex and use their third party SMETA-audits to verify social compliance.

## Product information

Product name and description: LINTEX' AREA and AREA SILK are wall-mounted magnetic glass writing boards with an oak frame. They are made of a tempered low iron glass board and a steel sheet that provides magnetism. AREA has a blank surface while AREA SILK has a matte surface. They are suited for use in environments such as schools, offices and conference premises.

AREA and AREA SILK come in different sizes, ranging from 1028x1028 mm to 2028x1028 mm. For this EPD, the modelled writing boards were 1528x1028 mm, weighing 23,32 kg. The table below shows all available sizes for AREA and AREA SILK and how to convert the EPD results from the baseline size (1528x1028 mm) by multiplying with a conversion factor. The factors are based on the surface area of the whiteboard, which means that an underlying assumption is that environmental impacts scale with the board surface for all impact categories. In practice, new results can be generated by multiplying with the conversion factor, which is simply the ratio of the writing surface area compared to the baseline area of 1,57 m<sup>2</sup> (1528x1028 mm). Since the size of the frame does not exactly scale with the surface area, this introduces an error (of <10%), where results for large models are overestimated and small models are underestimated.

Width (mm)	Height (mm)	Area (m <sup>2</sup> )	Conversion factor	Comment
1028	1028	1.06	<b>0.67</b>	AREA, AREA SILK
1278	1028	1.31	<b>0.84</b>	AREA, AREA SILK
1528	1028	1.57	<b>1</b>	Baseline AREA, AREA SILK
2028	1028	2.08	<b>1.33</b>	AREA, AREA SILK

Additional information on use, reuse and end-of-life: For daily cleaning, a whiteboard eraser or similar shall be used. For deep cleaning it is normally sufficient with water on a microfibre cloth. If the board is unusually dirty and stained, a designated alcohol-based cleaning solution may be used. Soap-based cleaning solution shall always be avoided, since this is the most common cause of erasing problems and smearing ink.

When the writing board is no longer needed, LINTEX encourages the owner/holder to put the product on the market again, to enable reuse. When the product's end-of life is finally reached, the product shall be handled by a professional waste management company to enable material recycling.

Product-related certifications: Apart from the oak frame AREA and AREA SILK are identical with the products MOOD Wall and SILK Wall.

MOOD Wall and SILK Wall are certified according to the Swedish labelling system Möbelfakta, ID 0420150929 and 0120220110. Mood Wall is evaluated by Byggvarubedömningen, an assessment system for building related products evaluating chemical content and environmental impact during the life cycle, ID 155664.

MOOD Wall is tested for VOC and formaldehyde emissions according to ISO 16000-9:2006 and evaluated according to EN 16516:2017 (EU-LCI values). The test results meet the requirements for the Recommended class in Swedish Byggvarubedömningen and are in compliance with the requirements of M1 in the Finnish voluntary emission classification of building materials.

MOOD Wall and SILK Wall are tested and approved according to EN 14434:2010 "Writing boards for educational institutions – Ergonomic, technical and safety requirements and their test methods"

This EPD covers the following article numbers:

- 41534E
- 41535E
- 41536E
- 41537E
- 41534EM
- 41535EM
- 41536EM
- 41537EM

## LCA information

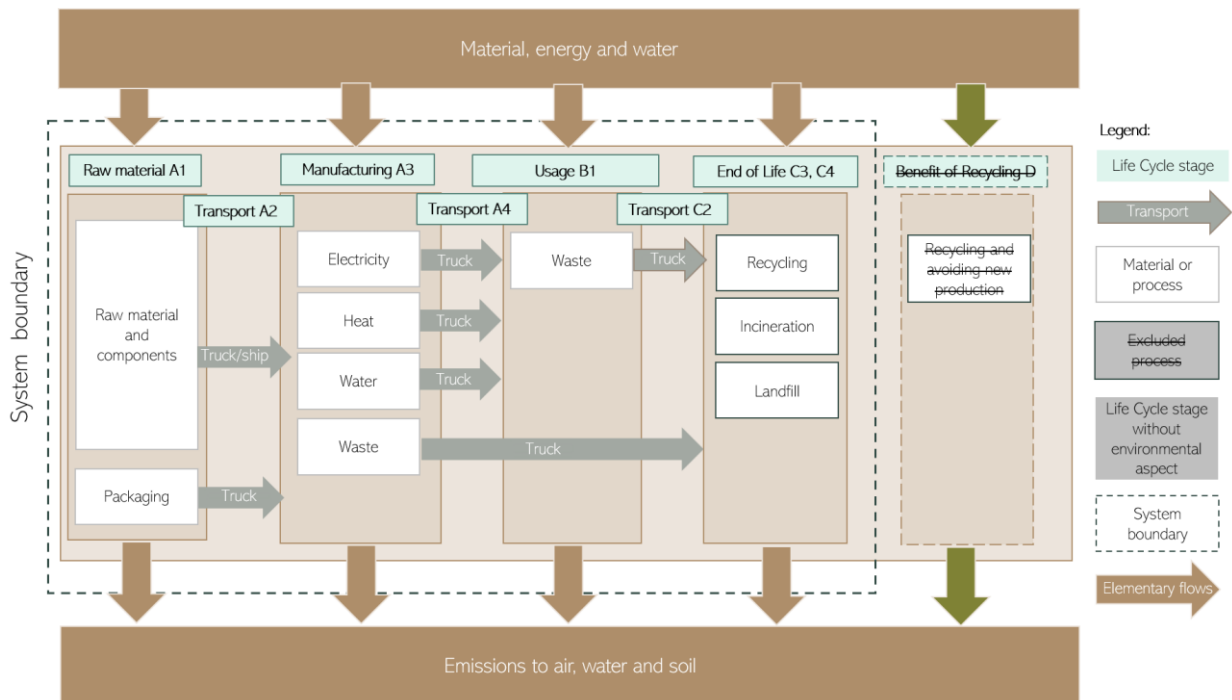
<b>Declared Unit</b>	The declared unit is 1 AREA writing board and 1 AREA SILK writing board, respectively, both weighing 23,32 kg, with standard size 1528x1028 mm.
<b>Product group classification</b>	UN CPC 3812
<b>Goal and Scope</b>	<p>The result will be used to understand where the environmental burden for the products occurs during the life cycle and aims to lay a road map for development to decrease this burden. The result will be communicated by the International EPD system.</p> <p>The audience includes resellers and end-clients.</p>
<b>Manufacturing Site</b>	Nybro, Sweden.
<b>Geographical Area</b>	The product is globally available, but the model for transports and waste is based on Europe, which is Lintex' main market.
<b>Compliant with</b>	<p>This EPD follows the "Book-keeping" LCA approach which is defined as attributional LCA in the ISO 14040 standard.</p> <p>In accordance with ISO 14025, ISO 14040 – ISO 140 44.</p> <p>This EPD follows the Product Category Rules Furniture, Except seats and mattresses 2012:19 version 2.01 valid until 2023-06-17</p>
<b>Cut-Off Rules</b>	<p>The following procedure is followed for the exclusion of inputs and output:</p> <ul style="list-style-type: none"> <li>- Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts shall be included</li> </ul> <p>A screening and expert judgement showed that the following aspects contribute less than 1% and could be cut-off:</p> <ul style="list-style-type: none"> <li>- Various supplier packaging</li> <li>- Production of capital goods for manufacturing (machines and facilities)</li> <li>- Potential transports from retailer to installation site</li> <li>- Energy and material use in installation</li> <li>- Cleaning and maintenance during use</li> </ul>
<b>Background Data</b>	<p>The data quality is considered good. All site-specific data for raw materials, auxiliary materials as well as energy and emissions in the manufacturing process is from 2020 and have been represented with ecoinvent datasets. All other relevant environmental aspects have been represented by specific data from suppliers or selected generic data and generic data from ecoinvent..</p> <p>Ecoinvent is the world's biggest LCI (Life cycle inventory) data library and the latest and most updated version was used. ecoinvent contains data for the specific geographical regions relevant for this study. The background data from ecoinvent 3.8 are from 2016-2020.</p>
<b>Electricity data</b>	Electricity consumption in the A3 module comes from Lintex own production from installed solar cells and geothermal heat pumps.
<b>Allocations</b>	<p>Polluter Pays / Allocation by Classification</p> <p>Two allocation rules are applied: 1) the raw material necessary for the manufacture is allocated by mass of the declared unit; 2) the energy necessary for the manufacture is allocated in MJ by production of the declared unit</p>
<b>Impact Assessment methods</b>	Potential environmental impacts and resource use values are calculated according to the GPI and PCR using the SimaPro 9.4 software.
<b>Based on LCA Report</b>	Miljögiraff Lintex AREA and AREA SILK LCA report 1184AREA
<b>LCA Practitioner</b>	Daniel Böckin, Karin Lagercrantz - Miljögiraff AB
<b>Software</b>	SimaPro 9.4

## System boundary

The EPD follows Cradle to grave (A1–C4) boundaries. A1 is defined as upstream, A2 and A3 as core and the remaining modules (A4–C4) as downstream. See the system diagram below for information about included modules.

Up-stream	Core			Downstream													
	Raw materials	Transport	Manufacturing	Transport	Construction-Installation	Use stage	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	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	
X	X	X	X	X	NR	NR	NR	NR	NR	NR	NR	NR	X	X	X	MND	

X= included in the LCA, NR = module without environmental aspects MND= Module Not Declared.



## Content and life cycle information

The following table shows the **material content** of the writing boards and the percentage of recycled and renewable material in the product.

Components	Main material	Weight AREA (kg)	Weight AREA SILK (kg)	Recycled material (wt%)		Renewable material (wt%)
				Pre-cons.	Post-cons.	
Glass board (AREA)	Glass	15.0	0	19.8	0	0
Glass board (AREA SILK)	Glass	0	15.0	15	0	0
Steel sheet	Steel	3.20	3.20	0	0	0
Oak frame	Wood	3.74	3.74	0	0	100
Paint	Paint	0.64	0.64	0	0	0
Tape	Adhesive	0.36	0.36	0	0	0
Aluminium brackets	Aluminium	0.24	0.24	0	0	0
Screws	Steel	0.09	0.09	0	0	0
Steel plug	Steel	0.02	0.02	0	0	0
Total		23.3	23.3	AREA: 13% AREA SILK: 10%	0%	16%
<b>Packaging</b>						
Corner protectors	LDPE	0.50	0.50	0	0	0
Cardboard	Corrugated board	3.16	3.16	0	50	100
Plastic band	PP	0.03	0.03	0	0	0
Wooden stands	Wood	0.67	0.67	0	0	100
<b>Substances of Very High Concern (SVHC)</b>	-	<b>Weight AREA (kg)</b>	<b>Weight AREA SILK (kg)</b>	<b>Weight-% (vs the product)</b>		<b>exceeds 0.1%</b>
(No SVHC exceeding 0.1 wt% in product)						

The majority of the product weight comes from the glass board, the steel sheet providing magnetism for the writing surface, and the oak frame.

**Manufacturing** takes place in Nybro, Sweden and includes painting, laminating and assembling. The energy consumption for manufacturing was estimated based on yearly energy use and total production of writing boards compared to Lintex total production. It is, on a yearly basis, covered by Lintex own production from their rooftop solar cells and their geothermal heat pump.

**Packaging** is shown in the table above, including wooden stands for transportation.

It is assumed that there are no environmental aspects during **installation** or **use** of the product, except the waste management of packaging after installation.

**End of life** is based on a generic European waste scenario where Lintex main markets are located.



## Environmental performance

### Potential environmental impact

PARAMETER		UNIT	AREA				AREA SILK			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Global warming potential (GWP)	Fossil	kg CO2 eq.	5.49E+01	6.95E+00	7.83E+00	6.97E+01	5.77E+01	7.14E+00	7.92E+00	7.28E+01
	Biogenic	kg CO2 eq.	-1.22E+01	8.09E-03	1.66E+01	4.37E+00	-1.24E+01	5.34E-03	1.68E+01	4.43E+00
	Land use and land transformation	kg CO2 eq.	7.93E-01	4.13E-03	2.06E-03	7.99E-01	9.11E-01	5.18E-03	1.86E-03	9.18E-01
	TOTAL	kg CO2 eq.	4.34E+01	6.96E+00	2.44E+01	7.48E+01	4.63E+01	7.15E+00	2.47E+01	7.81E+01
Ozone depletion		kg CFC11 eq.	4.04E-06	1.47E-06	1.25E-06	6.76E-06	3.76E-06	1.41E-06	1.25E-06	6.42E-06
Acidification potential		mol H+ eq.	3.96E-01	4.45E-02	2.25E-02	4.63E-01	4.06E-01	1.33E-01	2.25E-02	5.61E-01
Eutrophication, freshwater		kg P eq.	1.85E-02	8.07E-04	3.93E-04	1.97E-02	1.62E-02	7.22E-04	3.93E-04	1.74E-02
Eutrophication, marine		kg N eq.	7.03E-02	9.98E-03	1.04E-02	9.07E-02	7.47E-02	3.21E-02	1.04E-02	1.17E-01
Eutrophication, terrestrial		mol N eq.	7.17E-01	1.09E-01	7.32E-02	9.00E-01	7.69E-01	3.55E-01	7.31E-02	1.20E+00
Photochemical ozone formation		kg NMVO C eq.	2.15E-01	3.31E-02	2.55E-02	2.74E-01	2.28E-01	9.45E-02	2.55E-02	3.48E-01
Abiotic depletion potential – Elements		kg Sb eq.	2.35E-04	6.09E-05	1.76E-05	3.13E-04	3.61E-04	1.29E-04	1.76E-05	5.08E-04
Abiotic depletion potential – Fossil fuels		MJ, net calorific value	6.44E+02	9.86E+01	8.24E+01	8.25E+02	6.45E+02	9.44E+01	8.24E+01	8.21E+02
Water use		m3 depriv.	1.12E+01	9.69E-01	4.25E-01	1.26E+01	1.38E+01	9.06E-01	4.24E-01	1.51E+01

### Global warming potential IPCC 2021

PARAMETER		UNIT	AREA				AREA SILK			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
GWP-GHG		kg CO2 eq.	54.8	6.89	10.9	72.6	57.5	7.08	11.0	75.6

## Use of resources

PARAMETER		UNIT	AREA				AREA SILK			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Primary energy resources – Renewable	Used as energy carrier	MJ, net calorific value	1.20E+02	3.83E+01	1.19E+00	1.59E+02	1.26E+02	3.80E+01	1.19E+00	1.65E+02
	Used as raw materials	MJ, net calorific value	1.10E+02	0.00E+00	0.00E+00	1.10E+02	1.10E+02	0.00E+00	0.00E+00	1.10E+02
	TOTAL	MJ, net calorific value	2.29E+02	3.83E+01	1.19E+00	2.69E+02	2.36E+02	3.80E+01	1.19E+00	2.75E+02
Primary energy resources – Non-renewable	Used as energy carrier	MJ, net calorific value	6.46E+02	1.05E+02	8.75E+01	8.38E+02	6.47E+02	1.00E+02	8.75E+01	8.35E+02
	Used as raw materials	MJ, net calorific value	4.18E+01	0.00E+00	0.00E+00	4.18E+01	4.18E+01	0.00E+00	0.00E+00	4.18E+01
	TOTAL	MJ, net calorific value	6.88E+02	1.05E+02	8.75E+01	8.80E+02	6.89E+02	1.00E+02	8.75E+01	8.77E+02
Secondary material	kg	2.97E+00	0.00E+00	0.00E+00	2.97E+00	2.97E+00	2.25E+00	0.00E+00	0.00E+00	
Renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Non-renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Net use of fresh water	m <sup>3</sup>	3.69E-01	2.00E-02	3.30E-02	4.22E-01	4.22E-01	4.33E-01	1.64E-02	3.30E-02	

## Waste production and output flows

### Waste production

PARAMETER	UNIT	AREA				AREA SILK			
		Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Hazardous waste disposed	kg	0	0	0	0	0	0	0	0
Non-hazardous waste disposed	kg	0	0	0	0	0	0	0	0
Radioactive waste disposed	kg	0	0	0	0	0	0	0	0

### Output flows

PARAMETER	UNIT	AREA				AREA SILK			
		Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Components for reuse	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	5.20E-01	1.22E+01	1.27E+01	0	5.20E-01	1.22E+01	1.27E+01
Materials for energy recovery	kg	0	0	1.20E+01	1.20E+01	0	0	1.20E+01	1.20E+01
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

## Other environmental indicators

Impact category	UNIT	AREA				AREA SILK			
		Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Human toxicity, cancer impacts	cases	1.23E-05	5.35E-07	1.05E-06	1.38E-05	1.22E-05	5.48E-07	1.09E-06	1.39E-05
Human toxicity, non-cancer impacts	cases	8.23E-06	1.13E-06	2.05E-06	1.14E-05	8.60E-06	8.90E-07	2.12E-06	1.16E-05
Fresh water ecotoxicity	PAF .m3 .day	2.18E+05	2.66E+04	6.81E+04	3.13E+05	2.46E+05	2.50E+04	6.81E+04	3.39E+05
Land use	species .yr	1.20E+03	1.67E+02	5.96E+01	1.43E+03	1.32E+03	1.42E+02	5.96E+01	1.52E+03

Share of biogenic carbon	Unit	AREA	AREA SILK
Biogenic carbon in the product	kg C	1.59	1.59
Biogenic carbon in the packaging	kg C	1.71	1.71

## Additional information

Overall, most of the environmental impact of AREA and AREA SILK can be attributed to the emission of greenhouse gases and particulate matter, the use of fossil resources and the emission of toxic substances into ecosystems. Most of these occur in the production of raw materials, particularly the glass board and steel and aluminium components. The impacts are caused mainly by the use of non-renewable electricity and fuel for the production of these raw materials.

## Differences Versus Previous Versions

2023-01-11 Version 1

2023-01-16 Version 1.1

Editorial change: System boundary figure corrected to show which modules are included in the LCA

## References

- Böckin, D., Lagercrantz, K. Miljögiraff AB, AREA and AREA SILK LCA report 1184AREA, 2022-11-06
- Ecoinvent 3.8, 'Ecoinvent' <https://www.ecoinvent.org/database/database.html>
- EN ISO 14025:2014-02 Environmental labels and declarations - Type III environmental declarations - Principles and procedures, Edited in 2010
- EN ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework, 2006
- EN ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines, 2006
- General Programme Instructions of the International EPD® System. Version 3.01
- Gripstrand, Sara, Sustainability Manager, Lintex AB
- ILCD International guide for life-cycle data system. General guide for life cycle assessment – Detailed guidance, 2010
- Product Category Rules Furniture, Except seats and mattresses 2012:19 version 2.01 valid until 2023-06-17
- PRé Consultants, "SimaPro 9.4" (PRé Consultants, 2019), <http://www.pre-sustainability.com/simapro>



## Appendix II

### Self-declaration from EPD owner, specific Norwegian requirements

#### 1 Applied electricity data set used in the manufacturing phase

The electricity mix for the electricity used in manufacturing (A3) is the electricity grid mix

**We use electric energy from our own solar panels. We cancel the guarantees of origin for this electricity. We produce more than we use on a yearly basis.**

**For heating we use thermal heating also powered by electricity from the solar panels.**

<xxxxxx CO<sub>2</sub>eqv/MJ>

#### 2 Content of dangerous substances

**X The product contains no substances given by the REACH Candidate list or the Norwegian priority list.**

- The product contains substances that are less than 0.1% by weight given by the REACH Candidate or the Norwegian priority list.
- The product contains dangerous substances more than 0.1% by weight given in the REACH candidate list or the [Norwegian Priority List](#), concentrations is given in the EPD:

Dangerous substances from the REACH candidate list or the Norwegian Priority List	CAS No.	Quantity (concentration, wt%/FU(DU)).
Substance 1		
Substance n		

### 3 Transport from the place of manufacture to a central warehouse

Transport distance, and CO<sub>2</sub>-eqv./DU from transport of the product from factory gate to central warehouse in Oslo shall be given. The following table shall be included in the EPD:

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy use	Unit	Value (l/t)	Kg CO <sub>2</sub> -eqv./DU
Boat							
Truck	We have done extensive Life Cycle Analyses, and published verified EPD:s at EPD International. A4 varies depending on where in our market the product is sold. Calculations on transports with truck (Euro 6) from the factory in Nybro to our warehouse/production in Jevnaker and then to Oslo is 736 km. This generates approximately 0,13 kg CO <sub>2</sub> per kg product.						
Railway							
Rail							
Air							
Total							

### 4 Impact on the indoor environment

- Indoor air emission testing has been performed; specify test method and reference; M1, \_\_

Yes, we test our products according to ISO 16000-9:2006 and/or M1. See [www.lintex.se](http://www.lintex.se) for more information.

- No test has being performed

- Not relevant; specify \_\_\_\_\_