Environmental Product Declaration





Publisher: The Norwegian EPD Foundation Registration number: NEPD-4168-3410-EN

In accordance with ISO 14025 and Product Category Rules for Furniture

UNIT – recycled fabric

from

LINTEX

Programme: The International EPD® System, <u>www.environdec.com</u>

Programme operator: EPD International AB

EPD registration number: S-P-07576
Publication date: 2023-01-11
Valid until: 2028-01-11

Revision date: 2023-01-16 (Version 2.1)

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 information

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

Product category rules (PCR): Furniture, Except seats and mattresses 2012:19 version 2.01 valid until 2023-06-17	
PCR review was conducted by: <i>PCR Committee: Arper PsA Srl Moderator: Leo Breedveld, 2B Srl</i>	
ndependent third-party verification of the declaration and data, according to ISO 14025:2006:	
☐ EPD process certification ☒ EPD verification	
Third party verifier: David Althoff Palm, Ramboll Sweden AB, david@dalemarken.se	
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 from different programs may not be comparable.



Company information

Owner of the EPD: LINTEX AB Madesjövägen 17 382 45 Nybro Contact information:
Sara Gripstrand
Sustainability Manager
sara.gripstrand@lintex.se
Tel +46 735 068 471

<u>Description of the organisation:</u> 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.

<u>Management system-related certifications:</u> 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

<u>Product name and description:</u> UNIT is a writable and sound-absorbing wall section made of a magnetic glass board on one side and fabric on the other, surrounded by an aluminium frame. The fabric can be either polyester or wool. UNIT is filled with sound-absorbing material in a wooden frame and is fitted with retractable wheels. The fabric can be either recycled polyester or a wool mix – this EPD is valid for a UNIT with recycled polyester fabric. UNIT is suited for use in environments such as schools, offices and conference premises.

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. Vacuum and dry wipe textile products for daily cleaning. If the fabric is stained, use a damp cloth. For heavily stained fabrics combine with a dedicated soap solution.

When the product is no longer needed, LINTEX encourages the owner/holder to put it 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. UNIT is designed to make material separation possible, to enable material recycling.

<u>Product-related certifications:</u> UNIT is certified according to the Swedish labelling system Möbelfakta, ID 0120211213. Fabrics and filling used for the products are labelled with EU Ecolabel or Oekotex 100. At the time of publication of the EPD, UNIT is certified with FSC Mix®. For up-to-date information on product certifications, see www.lintex.se.

UNIT is tested and approved according to EN 1023:2000, a standard that includes dimensions, mechanical safety and stability of office screens. UNIT is also tested for sound absorption according to SS-EN ISO 354:2003, SS 25269:2013, ISO 20189:2018 and SS-EN ISO 11654:1997.

This EPD covers the following article numbers (with recycled polyester fabric):

- 5001 Textile/Glass
- 5001 Textile/Textile
- 5002 Textile/Glass
- 5002 Textile/Textile
- 6001 Textile/Glass
- 6001 Textile/Textile
- 6002 Textile/Glass
- 6002 Textile/Textile





LCA information

Declared Unit	The declared unit is 1 UNIT screen (glas/fabric) of size 1200 x 1855 mm and weight 67,1 kg and 1 UNIT screen (fabric/fabric) of size 1200x1855 mm and weight 54,5 kg. This EPD is valid for UNIT products with recycled polyester fabric.
Product group classification	UN CPC 3812
Goal and Scope	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.
	The audience includes resellers and end-clients.
Manufacturing Site	Nybro, Sweden.
Geographical Area	The product is globally available, but the model for transports and waste is based on Europe, which is Lintex' main market.
Compliant with	This EPD follows the "Book-keeping" LCA approach which is defined as attributional LCA in the ISO 14040 standard.
	In accordance with ISO 14025, ISO 14040 – ISO 140 44.
	This EPD follows the Product Category Rules Furniture, Except seats and mattresses 2012:19 version 2.01 valid until 2023-06-17
Cut-Off Rules	The following procedure is followed for the exclusion of inputs and output:
	- Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts shall be included
	A screening and expert judgement showed that the following aspects contribute less than 1% and could be cut-off:
	 Various supplier packaging Potential transports from retailer to installation site Energy and material use in installation Cleaning and maintenance during use
Background data	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 selected generic data or generic data from ecoinvent.
	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.
Electricity data	Electricity consumption in the A3 module comes from Lintex own production from installed solar cells and geothermal heat pumps.
Allocations	Polluter Pays / Allocation by Classification
	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
Impact Assessment methods	Potential environmental impacts and resource use values are calculated according to the GPI and PCR using the SimaPro 9.3 software.
Based on LCA Report	Miljögiraff Lintex UNIT LCA report 1184UNIT
LCA Practitioner	Daniel Böckin, Karin Lagercrantz - Miljögiraff AB
Software	SimaPro 9.4

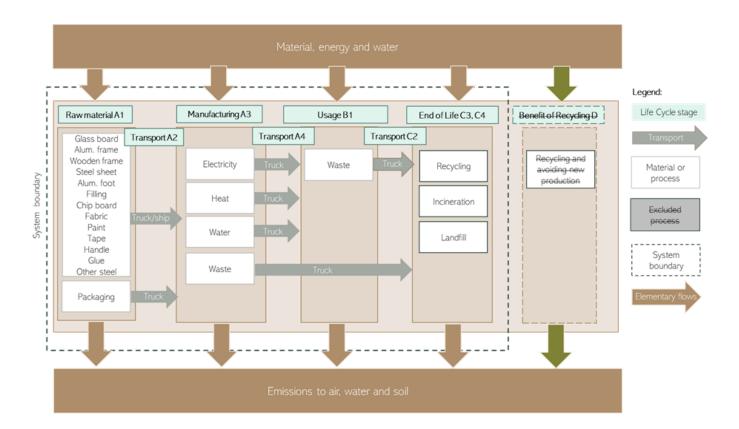


System boundary

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	Co	ore		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	А3	A4	A5	B1	B2	В3	В4	B5	В6	В7	C1	C2	C3	C4	D
X	Х	Χ	X	Х	NR	NR	NR	NR	NR	NR	NR	NR	Х	Х	Х	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 product and the percentage of recycled and renewable material.

Components	material	UNIT		(wt%)		Renewable material	
		(glass/fabric)	UNIT (fabric/fabric)	Pre- cons.	Post- cons.	(wt%)	
Glass board	Glass	21.01	-	19.8	0	0	
Aluminium frame	Aluminium	17.4	17.4	0	0	0	
Wooden frame	Wood	8.95	17.9	0	0	100	
Steel sheet	Steel	4.36	-	0	0	0	
Aluminium foot	Aluminium	5.32	5.32	0	90	0	
Other steel components	Steel	4.65	4.65	0	0	0	
Sound absorbent filling	PET	3.30	6.60	0	42.5	0	
Particle board	Wood	1.52	-	0	84	84	
Fabric	Polyester	0.70	1.39	0	99	0	
Coating for aluminium frame	Polyester	0.72	0.72	0	0	0	
Paint	Paint	0.39	-	0	0	0	
Tape	Adhesive	0.43	-	0	0	0	
Handle	ABS	0.35	0.35	0	0	0	
Glue	Adhesive	0.017	0.033	0	0	0	
Total		69.11	54.5	G/F: 6% F/F:0%	G/F: 12% F/F:13%	G/F:15% F/F:26%	
Packaging							
Well packaging	Cardboard	11.41	11.41	0	75	100	
Fanfold	Cardboard	1.68	1.68	0	80	100	
Wooden stands	Wood	0.67	0.67	0	0	100	
Substances of Very High Concern (SVHC)	-	Weight (mg)	ling 0.1 wt% in p	the proc	% (versus luct)	exceeds 0.1%	

(No SVHC exceeding 0.1 wt% in product)

The majority of the product weight comes from the glass board, the aluminium frame, as well as the wooden fram. The fabric chosen for this EPD is a recycled polyester.

Manufacturing takes place in Nybro, Sweden and includes cutting the steel sheet and fabric, welding the aluminium frame and assembling the product. The energy consumption for manufacturing was estimated based on yearly energy use and total production of screens 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

		UNIT	· ·	JNIT (glas	s/fabric)		Ų	JNIT (fabi	ric/fabric)	
PARA	PARAMETER		Up- stream	Core	Down- stream	TOTAL	Up- stream	Core	Down- stream	TOTAL
	Fossil	kg CO ₂ eq.	5.82E+02	1.57E+01	1.69E+01	6.14E+02	5.41E+02	9.66E+00	1.78E+01	5.68E+02
Global	Biogenic	kg CO ₂ eq.	-2.04E+01	-1.86E-01	4.29E+01	2.24E+01	-3.47E+01	6.59E-03	5.60E+01	2.13E+01
warming potentia I (GWP)	Land use and land trans- formation	kg CO ₂ eq.	8.00E-01	1.04E-02	4.48E-03	8.15E-01	4.27E-01	6.95E-03	3.66E-03	4.38E-01
	TOTAL	kg CO ₂ eq.	5.62E+02	1.55E+01	5.98E+01	6.38E+02	5.06E+02	9.67E+00	7.39E+01	5.90E+02
Ozone de	epletion	kg CFC11 eq	5.20E-05	3.23E-06	2.76E-06	5.80E-05	7.90E-05	1.84E-06	2.25E-06	8.31E-05
Acidifica	tion	mol H+ eq	3.61E+00	2.28E-01	5.30E-02	3.89E+00	3.26E+00	1.84E-01	4.44E-02	3.49E+00
Eutrophic potential freshwate	,	kg P eq	1.43E-01	1.57E-03	8.57E-04	1.46E-01	1.28E-01	8.65E-04	7.15E-04	1.29E-01
Eutrophi potential		kg N eq	6.64E-01	5.47E-02	3.27E-02	7.51E-01	6.13E-01	4.44E-02	3.48E-02	6.92E-01
Eutrophic potential terrestria	,	mol N eq	6.81E+00	6.05E-01	1.77E-01	7.59E+00	6.22E+00	4.92E-01	1.49E-01	6.87E+00
Photoche oxidant f potential	ormation	kg NMVO C eq.	1.96E+00	1.64E-01	6.31E-02	2.19E+00	1.80E+00	1.31E-01	5.36E-02	1.98E+00
Abiotic d potential Elements	-	kg Sb eq.	1.85E-03	9.39E-05	3.82E-05	1.98E-03	1.91E-03	7.36E-05	3.16E-05	2.02E-03
Abiotic d potential resource	- Fossil	MJ, net calorifi c value	5.59E+03	2.15E+02	1.82E+02	5.99E+03	5.25E+03	1.24E+02	1.48E+02	5.52E+03
Water sc potential	_	m³ eq.	7.31E+01	1.54E+00	9.88E-01	7.56E+01	6.55E+01	1.18E+00	7.93E-01	6.75E+01





Global warming potential IPCC 2021

			UNIT (gla	ss/fabric)		UNIT (fabric/fabric)				
PARAMETER	UNIT	Up- stream	Core	Down- stream	TOTAL	Up- stream	Core	Down- stream	TOTAL	
GWP-GHG	kg CO2 eq.	567	15.6	29.6	612	527	9.59	31.1	567	

Use of resources

			ı	UNIT (gla	ss/fabric		l	JNIT (fab	ric/fabric)
PARAME	TER	UNIT	Up- stream	Core	Down- stream	TOTAL	Up- stream	Core	Down- stream	TOTAL
	Used as energy carrier	MJ, net calorific value	8.89E+02	6.12E+01	2.66E+00	9.53E+02	1.26E+03	5.16E+01	2.24E+00	1.32E+03
Primary energy resources – Renewable	Used as raw materi- als	MJ, net calorific value	3.13E+02	0.00E+00	0.00E+00	3.13E+02	4.59E+02	0.00E+00	0.00E+00	4.59E+02
	TOTAL	MJ, net calorific value	1.20E+03	6.12E+01	2.66E+00	1.27E+03	1.72E+03	5.16E+01	2.24E+00	1.78E+03
	Used as energy carrier	MJ, net calorific value	5.92E+03	2.29E+02	1.94E+02	6.34E+03	5.56E+03	1.32E+02	1.58E+02	5.85E+03
energy resources – Non-	Used as raw materi- als	MJ, net calorific value	2.05E+02	0.00E+00	0.00E+00	2.05E+02	3.05E+02	0.00E+00	0.00E+00	3.05E+02
	TOTAL	MJ, net calorific value	6.12E+03	2.29E+02	1.94E+02	6.55E+03	5.86E+03	1.32E+02	1.58E+02	6.15E+03
Secondary n	naterial	kg	1.30E+01	0.00E+00	0.00E+00	1.30E+01	1.30E+01	0.00E+00	0.00E+00	1.30E+01
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 fr water	esh	m ³	3.42E+00	5.08E-02	5.89E-02	3.53E+00	3.34E+00	2.09E-02	5.79E-02	3.42E+00





Waste production and output flows

Waste production

	UNIT		UNIT (gla	ss/fabric)		UNIT (fabric/fabric)				
PARAMETER		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

			UNIT (gla	ss/fabric)		UNIT (fabric/fabric)					
PARAMETER	UNIT	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	1.01E+00	3.65E+01	3.75E+01	0	1.01E+00	2.11E+01	2.21E+01		
Materials for energy recovery	kg	0	0	2.79E+01	2.79E+01	0	0	3.59E+01	3.59E+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	UNIT		UNIT (gla	ss/fabric)		UNIT (fabric/fabric)					
category		Up- stream	Core	Down- stream	TOTAL	Up- stream	Core	Down- stream	TOTAL		
Human toxicity, cancer impacts	cases	1.37E-04	1.05E-06	1.32E-06	1.40E-04	1.23E-04	6.85E-07	8.44E-07	1.25E-04		
Human toxicity, non-cancer impacts	cases	1.21E-04	1.91E-06	3.82E-06	1.27E-04	1.15E-04	1.16E-06	3.48E-06	1.20E-04		
Fresh water ecotoxicity	PAF .m3 .day	3.97E+06	4.07E+04	2.36E+06	6.38E+06	3.83E+06	3.33E+04	2.32E+06	6.18E+06		
Land use	species .yr	4.15E+03	2.94E+02	1.19E+02	4.57E+03	5.89E+03	1.91E+02	1.00E+02	6.19E+03		

Share of biogenic carbon	Unit	UNIT (glass/fabric)	UNIT (fabric/fabric)
Biogenic carbon in the product	kg C	4.35	7.61
Biogenic carbon in the packaging	kg C	6.18	6.18





Additional information

Overall, most of the environmental impact of UNIT 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 impacts occur in the production of raw materials, particularly the aluminium frame uses non-renewable electricity for the aluminium production

Differences versus previous published versions

2022-05-19 Version 1

2023-01-11 Version 2

New verification: This EPD is a revision of a previous LCA and EPD for UNIT (glass/fabric). The difference in this LCA and EPD is a change in fabric (the previous fabric based on a wool mix has been replaced by a recycled polyester fabric) and a change of input data for the particle board (previously modelled with generic data but now modelled with EPD data for the specific particle board). Furthermore, a new product version (UNIT fabric/fabric) has been added to the EPD.

2023-01-16 Version 2.1

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



References

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- EN ISO 14025:2014-02 Environmental labels and declarations Type III environmental declarations Principles and procedures, Edited in 2010
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- Gripstrand, Sara, Sustainability Manager, Lintex AB
- ILCD International guide for life-cycle data system. General guide for life cycle assessment –
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- 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 CO2 eqv/MJ>

2 Content of dangerous substances

X The product contains no	substances giv	en by the	REACH	Candidate	list or	r 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 CO₂-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:

Туре	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy use	Unit	Value (I/t)	Kg CO2- 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 CO2 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 <u>www.lintex.se</u>
for more information.
No test has being performed
Not relevant; specify