

Environmental Product Declaration



In accordance with ISO 14025 and Product Category Rules for Furniture

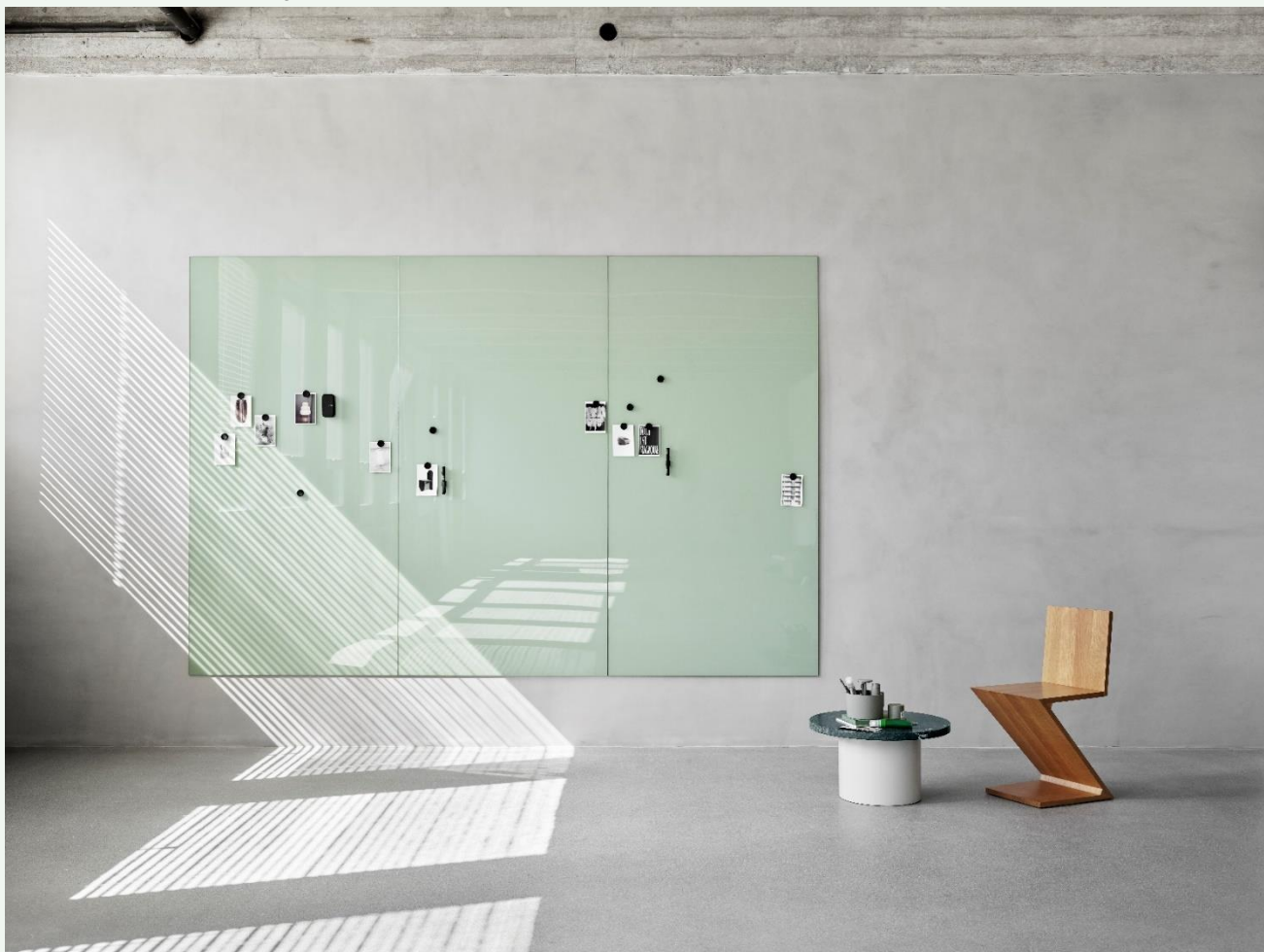
MOOD Wall and SILK Wall

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.



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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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.palm@ramboll.se</i> <i>Approved by: 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

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

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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 subsidiary's, 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 self-sufficient with respect to 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' MOOD Wall and SILK Wall are wall-mounted magnetic glass writing boards. They are made of a tempered low iron glass board and a steel sheet that provides magnetism. MOOD Wall has a blank surface while SILK Wall has a matte surface. They are suited for use in environments such as schools, offices and conference premises.

MOOD Wall and SILK Wall come in different sizes, ranging from 1000x1000 mm to 4000x2000 mm. The three largest sizes are called MOOD Spaces and SILK Spaces. For this EPD, the modelled writing boards were 2000x1000 mm, weighing 26,11 kg. The table below shows all available sizes for MOOD Wall and SILK Wall and how to convert the EPD results from the baseline size (2000x1000 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 2 m² (2000x1000 mm).

Width (mm)	Height (mm)	Area (m ²)	Conversion factor	Comment
1000	1000	1,00	0,50	MOOD Wall, SILK Wall
1250	1000	1,25	0,63	MOOD Wall, SILK Wall
1500	1000	1,50	0,75	MOOD Wall, SILK Wall
2000	1000	2,00	1	Baseline (MOOD Wall, SILK Wall)
2000	2000	4,00	2	MOOD Spaces, SILK Spaces
3000	2000	6,00	3	MOOD Spaces, SILK Spaces
4000	2000	8,00	4	MOOD Spaces, SILK Spaces

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: MOOD Wall and SILK Wall are certified according to the Swedish labelling system Möbelfakta, ID 0420150929 and 0120220110. MOOD Wall and SILK Wall are 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".

LCA information

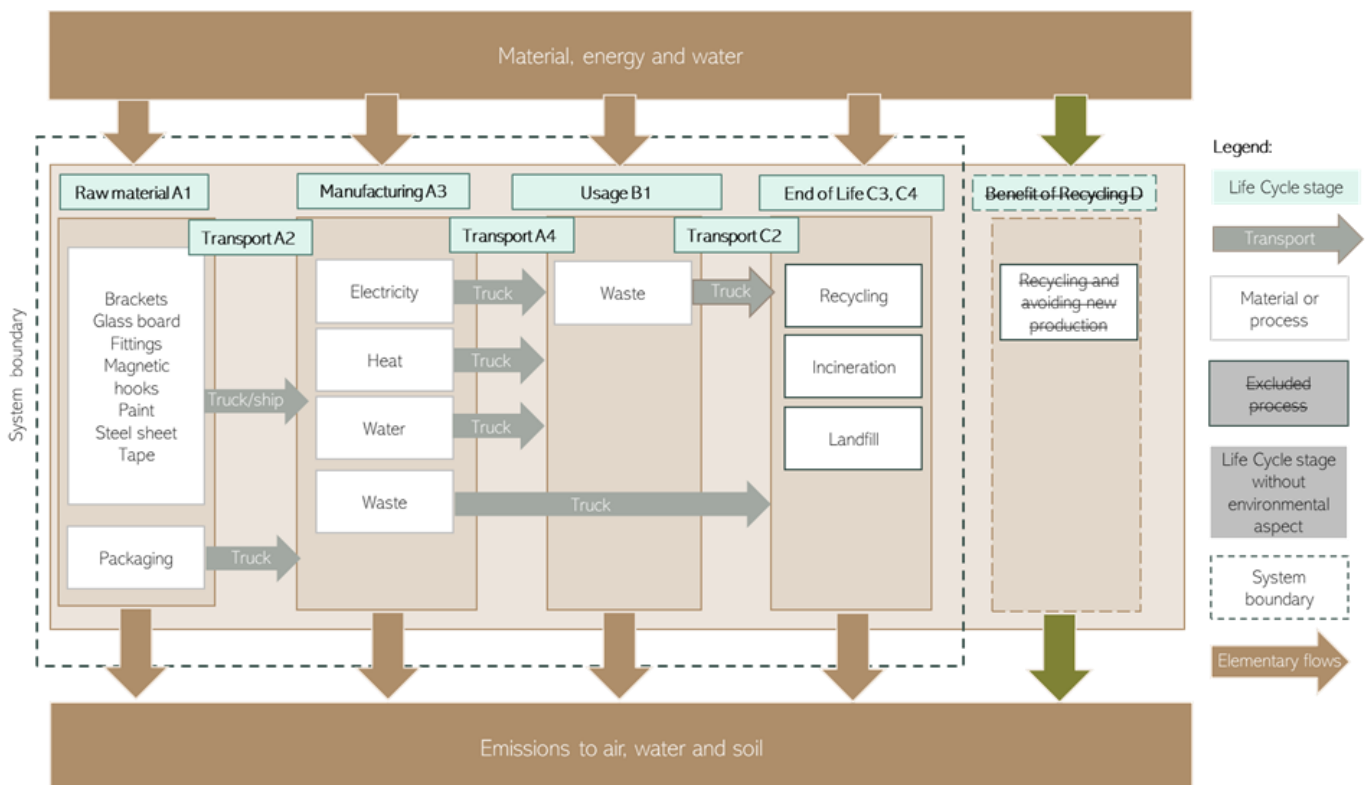
Declared Unit	The declared unit is 1 MOOD Wall writing board and 1 SILK Wall writing board, respectively, both weighing 25,73 kg, with standard size 2000 x 1000 mm.
Product group classification	UN CPC 3812
Goal and Scope	<p>The result will be used to understand where the environmental burden for the 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>
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	<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>
Cut-Off Rules	<p>The following procedure is followed for the exclusion of inputs and output:</p> <ul style="list-style-type: none"> - Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts shall be included <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"> - Various supplier packaging - Potential transports from retailer to installation site - Energy and material use in installation - Cleaning and maintenance during use
Background Data	<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 generic ecoinvent data.</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>
Electricity data	Electricity consumption in the A3 module comes from Lintex own production from installed solar cells and geothermal heat pumps.
Allocations	<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>
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 MOOD Wall and SILK Wall LCA report 1003MOODSILK
LCA Practitioner	Daniel Böckin, Miljögiraff AB
Software	SimaPro 9.3

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. The glass board for SILK Wall and the steel sheet, magnetic hooks and aluminium brackets come from Lintex China, while the other components and materials come from external suppliers.

Components	Main material	Weight MOOD Wall (kg)	Weight SILK Wall (kg)	Recycled material (wt%)		Renewable material (wt%)
				Pre-cons.	Post-cons.	
Glass board (MOOD)	Glass	20,0	0	19,8	0	0
Glass board (SILK)	Glass	0	20,0	15	0	0
Steel sheet	Steel	4,27	4,27	0	0	0
Magnetic hooks	Steel	0,60	0,60	0	0	0
Tape	Adhesive	0,49	0,49	0	0	0
Paint	Paint	0,36	0,36	0	0	0
Aluminium brackets	Aluminium	0,06	0,06	0	0	0
Total		26,2	26,2	M: 15% S:11,5%	0%	0%
Packaging						
Corner protectors	LDPE	0,05	0,05	0	0	0
Cardboard	Corrugated board	3,91	3,91	0	50	100
EPS U-profile	EPS	0,24	0,24	0	0	0
Plastic band	PP	0,05	0,05	0	0	0
Wooden stands	Wood	0,67	0,67	0	0	100
Substances of Very High Concern (SVHC)	-	Weight MOOD Wall (kg)	Weight SILK Wall (kg)	Weight-% (vs the product)		exceeds 0.1%
(No SVHC exceeding 0,1 wt% in product)						

The majority of the product weight comes from the glass board, produced in Poland for MOOD Wall and China for SILK Wall, and the steel sheet providing magnetism for the writing surface.

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	MOOD Wall				SILK Wall			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	6,16E+01	1,00E+01	2,93E+00	7,45E+01	6,68E+01	1,03E+01	2,93E+00	8,00E+01
	Biogenic	kg CO ₂ eq.	-	1,01E-02	1,04E+01	5,04E+00	-	6,60E-03	1,04E+01	4,89E+00
	Land use and land transformation	kg CO ₂ eq.	8,48E-01	5,25E-03	2,16E-04	8,53E-01	8,54E-01	6,61E-03	2,16E-04	8,61E-01
	TOTAL	kg CO ₂ eq.	5,70E+01	1,00E+01	1,34E+01	8,04E+01	6,21E+01	1,03E+01	1,33E+01	8,57E+01
Acidification potential (AP)		kg SO ₂ eq.	4,52E-01	5,87E-02	7,57E-03	5,19E-01	4,64E-01	1,73E-01	7,55E-03	6,45E-01
Eutrophication potential (EP)		kg PO ₄ ³⁻ eq.	2,97E-02	9,58E-04	7,26E-05	3,07E-02	1,86E-02	8,50E-04	7,24E-05	1,96E-02
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	2,44E-01	4,44E-02	1,19E-02	3,00E-01	2,66E-01	1,24E-01	1,18E-02	4,02E-01
Abiotic depletion potential – Elements		kg Sb eq.	2,91E-04	6,57E-05	1,43E-06	3,58E-04	4,50E-04	5,83E-05	1,43E-06	5,10E-04
Abiotic depletion potential – Fossil resources		MJ, net calorific value	7,24E+02	1,45E+02	1,28E+01	8,81E+02	7,40E+02	1,40E+02	1,28E+01	8,93E+02
Water scarcity potential		m ³ eq.	1,16E+01	1,01E+00	1,59E-01	1,28E+01	1,50E+01	9,32E-01	1,59E-01	1,61E+01

Global warming potential IPCC 2021

PARAMETER		UNIT	MOOD Wall				SILK Wall			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
GWP-GHG		kg CO ₂ eq.	6,22E+01	9,92E+00	6,65E+00	7,88E+01	6,70E+01	1,02E+01	6,64E+00	8,38E+01

Use of resources

PARAMETER		UNIT	MOOD Wall				SILK Wall			
			Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Primary energy resources – Renewable	Used as energy carrier	MJ, net calorific value	1,06E+02	3,36E+01	1,57E-01	1,40E+02	1,06E+02	3,36E+01	1,57E-01	1,40E+02
	Used as raw materials	MJ, net calorific value	4,45E+01	0,00E+00	0,00E+00	4,45E+01	4,45E+01	0,00E+00	0,00E+00	4,45E+01
	TOTAL	MJ, net calorific value	1,50E+02	3,36E+01	1,57E-01	1,84E+02	1,50E+02	3,36E+01	1,57E-01	1,84E+02
Primary energy resources – Non-renewable	Used as energy carrier	MJ, net calorific value	7,46E+02	1,53E+02	1,36E+01	9,13E+02	7,58E+02	1,53E+02	1,36E+01	9,25E+02
	Used as raw materials	MJ, net calorific value	3,04E+01	0,00E+00	0,00E+00	3,04E+01	1,76E+01	0,00E+00	0,00E+00	1,76E+01
	TOTAL	MJ, net calorific value	7,76E+02	1,53E+02	1,36E+01	9,43E+02	7,76E+02	1,53E+02	1,36E+01	9,43E+02
Secondary material	kg	4,16E+00	0,00E+00	0,00E+00	4,16E+00	3,15E+00	0,00E+00	0,00E+00	3,15E+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 ³	4,40E-01	2,71E-02	1,14E-02	4,79E-01	4,40E-01	2,71E-02	1,14E-02	4,79E-01	

Waste production and output flows

Waste production

PARAMETER	UNIT	MOOD Wall				SILK Wall			
		Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Hazardous waste disposed	kg	1,79E-04	0	0	1,79E-04	1,79E-04	0	0	1,79E-04
Non-hazardous waste disposed	kg	9,63E-03	0	0	9,63E-03	9,63E-03	0	0	9,63E-03
Radioactive waste disposed	kg	0	0	0	0	0	0	0	0

Output flows

PARAMETER	UNIT	MOOD Wall				SILK Wall			
		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	0	1,74E+01	1,74E+01	0	0	1,74E+01	1,74E+01
Materials for energy recovery	kg	0	0	5,68E+00	5,68E+00	0	0	5,68E+00	5,68E+00
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	MOOD Wall				SILK Wall			
		Up-stream	Core	Down-stream	TOTAL	Up-stream	Core	Down-stream	TOTAL
Human toxicity, cancer impacts	cases	1,49E-05	6,86E-07	6,49E-07	1,63E-05	1,49E-05	6,86E-07	6,49E-07	1,63E-05
Human toxicity, non-cancer impacts	cases	9,73E-06	1,47E-06	1,29E-06	1,25E-05	9,73E-06	1,47E-06	1,29E-06	1,25E-05
Fresh water ecotoxicity	PAF .m3 .day	2,40E+05	2,74E+04	5,87E+04	3,26E+05	2,40E+05	2,74E+04	5,87E+04	3,26E+05
Land use	species .yr	2,31E+03	4,93E+01	5,07E+00	2,37E+03	2,31E+03	4,93E+01	5,07E+00	2,37E+03

Share of biogenic carbon	Unit	Amount
Biogenic carbon in the product	kg C	0
Biogenic carbon in the packaging	kg C	2,04

Additional information

Overall, most of the environmental impact of MOOD Wall and SILK Wall 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 components. The impacts are caused mainly by the use of non-renewable electricity and fuel for the production of float glass and steel. Compared to the glass board in MOOD Wall (made in Poland), the glass for SILK Wall causes higher environmental impact, because of the additional acid etching treatment and due to being made in China, with longer transports and more environmental impact from electricity production.

References

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