

# Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019 for:

## *LIP Wall Plasters*

*from LIP Bygningsartikler A/S*



**Programme:** The International EPD® System, [www.environdec.com](http://www.environdec.com)  
**Programme operator:** EPD International AB  
**EPD registration number:** S-P-04248 available from EPD International  
**Publication date:** 2021-11-02 (version 1)  
**Revision date:** 2022-06-28 (version 2)  
2023-02-03 (version 3)  
**Valid until:** 2026-10-28 (version 1, 2, 3)

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)

## General information

**Owner of the declaration and manufacturer:**

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**Declaration issued:** 2021-11-02

**EPD Prepared by:** Bureau Veritas HSE, Denmark

**Standards:** ISO 14025 and EN 15804+A2:2019. EPD's of other construction products may not be comparable if they do not comply with this standard.

**Statement:** This report records that the LCA based information and the additional information declared in the EPD meets the requirements of the European Standard EN 15804:2010+A2:2019 and PCR 2019:14 v 1.11.

**Scope:** This LCA study is intended to be used in cradle-to-gate with options EPD and covers the life cycle sub-modules A1-A3, A4, A5, C1-C4, and D the following wall plasters in table 1, all produced by LIP Bygningsartikler A/S at the same production site. The EPD will be accessible on <http://www.lip.dk/> together with safety data sheets and product information, providing information for business-to-business communication. The Geographical scope is Europe.

## About LIP Bygningsartikler A/S

LIP Bygningsartikler A/S is a Danish Company, which since its founding in 1967 has produced high quality products at competitive prices.

The product range from the beginning was tile adhesive and sealants, which since then has been expanded with products within flooring putty, waterproofing, silicone, epoxy, filler compounds, etc.

All our products are continuously under internal as well as external quality control, so that we can always live up to our slogan:

LIP - when building on quality!

## Product information

### Products represented

LIP 320 Wall Plaster, LIP Wall Plaster, LIP 350 Wall Plaster, LIP 360 Wall Plaster Light, LIP Wall Adhesive, LIP Wall adhesive, coarse, LIP 330 Wall Repair Mortar, LIP Wall Adhesive -5.



Figure 1: Pictures of the eight LIP wall plaster products covered in this project report.

### Product description

These products are manufactured by LIP Bygningsartikler A/S in the production plants located in Nørre Aaby, Denmark. These products are used for fixing and laying wall and floor tiles, marble, facing bricks, glass wool batts, Rockwool batts, polystyrene veneers, etc.

The manufacturing process starts from raw materials purchased from suppliers and stored in the plant. Bulk raw materials are stored in specific silos and added mostly automatically in the production mixer, according to the formula of the product. Other raw materials, supplied in bags or big bags, are stored in the warehouse and added automatically or manually in the mixer. The production is a discontinuous process, in which all the components are mechanically mixed in batches.

The semi-finished product is then packaged in bags, put on wooden pallets, covered by stretched hoods and stored in the Finished Products' warehouse. The quality of final products is controlled before the sale.

The product is supplied from production in dry form, premixed in respect of all contents but water. Water is added at the building site in the construction/ installation stage, in a defined amount and technique, in order to produce a deformable cementitious adhesive of high performance. The product is under UN CPC 3733 - Refractory cements, mortars, concretes and similar compositions n.e.c.

Table 1: Product information for the six products covered by this EPD.

Product name		Article no.	Description
Danish	English		
LIP 320 Vægspuds, grå	LIP 320 Wall plaster	250022	20 kg bags Grey cement based 0.2-0.275L water per kg
LIP 330 Reparations mørtel væg, grå	LIP 330 Wall Repair Mortar	250060	5 kg bags Grey cement based 0.2-0.275L water per kg
LIP 350 Universalmørtel, grå	LIP 350 Wall plaster	250039	20 kg bags Grey cement based 0.2L water per kg
LIP 350 Universalmørtel, hvid	LIP 350 Wall plaster white	250053	20 kg bags White cement based 0.18L water per kg
LIP 360 Fiberpuds let	LIP 360 Fiber Plaster Light	250046	20 kg bags White cement based 0.28L water per kg
LIP Limmørtel	LIP Wall adhesive	270006	20 kg bags Grey cement based 0.2-0.25L water per kg
LIP Limmørtel, grov	LIP Wall adhesive, coarse	270020	20 kg bags Grey cement based 0.2-0.25L water per kg
LIP Limmørtel minus 5	LIP Wall adhesive -5	270013	20 kg bags Grey cement based 0.2-0.24L water per kg

**Declared Unit**

The declared unit (DU) is 1 kg of dry-packed finished product. This EPD describes the environmental impact of 1 kg of dry-packed wall plaster.

The product consumption, of course, depends on the size of the tile, unevenness, grout size and the size of the tools.

**Reference service life**

According to LIP Bygningsartikler A/S experience, the Reference Service Life (RSL) of premade mortars is not applicable, as B1-B7 modules are not declared and not assessed. The product does not need maintenance or replacement during its service life, if professionally used and properly installed.

**Technical data**

The products are designed, produced and CE marked according to DS/EN: 998-1.

They are classified as seen in table 2 according to DS/EN: 998-1 for rendering/plastering wall plasters based on inorganic binders for external (rendering) and internal (plastering) use on walls, ceilings, columns and partitions.

Table 2: Performance information for the eight wall plaster products according to DS/EN 998-1: Specification for wall plasters for masonry – part 1 Rendering and plastering wall plasters.

	LIP 320 Wall plaster	LIP 330 Wall Repair Mortar	LIP 350 Wall plaster	LIP 350 Wall plaster	LIP 360 Wall plaster light	LIP Wall adhesive	LIP Wall adhesive, coarse	LIP Wall adhesive-5
<b>Standard</b>	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1	DS/EN: 998-1
<b>Crushing strength</b>	N/A	N/A	≥ 6 N/mm2	> 5 N/mm2	> 5 N/mm2	N/A	N/A	N/A
<b>Flexibility strength</b>	N/A	N/A	≥ 2 N/mm2	> 2 N/mm2	> 2 N/mm2	N/A	N/A	N/A

**Air emission**

All the eight Wall Plasters covered in this EPD has low dust technology and very low emission of volatile organic compounds and documented with GEV-EMICODE EC 1<sup>PLUS</sup>. Documentation attached for GEV-EMICODE.



**Content declaration**

Content declaration including packaging covering the eight LIP Wall plasters in this EPD.

Table 3: Content declaration, which covers the eight LIP products. Packing material information is per kg product. 1 declared unit is 1kg of product.

LIP Wall Plasters				
Product components		Weight%	Post-consumer material, weight-%	Renewable material, weight-%
Silica sand		50 - 75	0%	0%
Cement		15 - 60	0%	0%
Additives		1 – 15	0%	0%
Packaging materials		Weight, kg	Weight-% (versus the product)	
Bags	Paper	0.012 kg (for 5 and 20kg bag) 0.0145 kg for 20kg bag 0.0122 for 15 kg bag 0.003312 for 5 kg bag	12 % (for 5 and 20kg bag) 14.5 % for 20kg bag 12.2 % for 15 kg bag 3.3% for 5 kg bag	
	PE-film	0.5 g/kg product	0.05 %	
Transport packaging	PE-film	0.6 g/kg product	0.06 %	
Total:			<15%	

During the life cycle of the product no hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has been used in a percentage higher than 0.1% of the weight of the product.

## LCA information

### *Product category rules (PCR)*

PCR 2019:14 Construction products (EN 15804:A2) Version 1.11.

### *Time representativeness*

Data from factory (primary data) is from 2021.

### *Database(s) and LCA software used*

LCA Software: Simapro 9.4

Database: Most processes in the LCA Software have been modelled using the EcolInvent database 3.8. The database was available in SimaPro as local LCI process libraries, allowing for background data integration. Instead of using generic data for the main components including cement, calcium carbonate and polymer powder, the suppliers of those raw materials were contacted and specific EPD for their raw materials were used.

EPDs used as input data along with their EPD related information i.e. EPD program, validity dates, owner, etc. are presented 'Database section' of the LCA project report, in order to preserve confidentiality of the supplier.

The impact models used are the ones included in the Simapro method named EN 15804 +A2 Method V1.00 / EF 3.0 normalization and weighting set.

### *Cut-off criteria for initial inclusion of inputs and outputs*

The general rules for cut-off of inputs and outputs follow the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes. Recycling processes and benefits for recycled plastic packaging is regarded as below cut-off criterion of 1%.

### *Allocation principles and procedures*

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. In this study, as per EN 15804, allocation is conducted in the following order.

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g. mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

The "Allocation, cut-off by classification" system model that has been chosen subdivides multi-product activities by allocation, based on physical, economic, mass or other properties. By-products of waste treatment processes are cut-off, as are all by-products classified as recyclable. Markets in this model include all activities in proportion to their current production volume.

The production energy used in this LCA study, is derived by the total energy consumption at the location of LIP Bygningsartikler A/S divided by the total production volume of all their products. However, there are no co-products, and therefore no allocation between products beside the energy.

### *Description of system boundaries*

This study covers a cradle-to-gate with options (A1-A5, C1-C4 and D) EPD.

Table 4: Life cycle stages covered by this LCA study.

	Product stage			Installation processes		Use stage							End of life stage				
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1-A3			A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	Production of commodities, raw materials	Product manufacture															
Modules declared	X			X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Europe	Denmark		Europe													
Process type	Upstream	Processes the manufacture has influence over		Downstream													
Data type	>58 % share of specific data in % GWP-GHG	Specific		-													
Variation – products	Not relevant			-													
Variation – sites	Manufactured in one site			-													

**Product stage (A1-A3):**

- A1-A2: extraction, supply and transport of raw materials and packaging to LIP Bygningsartikler A/S. Raw materials are purchased from European suppliers.
- A3: manufacturing process of product and its packaging and waste management from the same process. All the electricity comes from wind energy produced at Lindø Port with >3MW onshore wind turbines. Approximately 0.88MJ is used for the production of 1 kg product. A3 covers dosage and mixing of selected and measured raw materials and additives to ensure that the product meets desired properties and packaging material consumption. Packaging product materials consist of the bag material, wooden pallet and LDPE used as wrapping material. The wooden pallet is part of a return system, and therefore not a part of this study. A calculation has been already made that the wooden pallet can hold at least 48 bags of product and it was used to calculate how much wrapping foil is needed.

Therefore, presuming 25 use cycles is reasonable for one pallet, in average 1/25 of the manufacturing and waste handling of one pallet should be allocated to at least the 48 bags of product(s) transported in one pallet use cycle or 1/48 for 1 bag of product. Therefore, the waste from the same process is assessed to be negligible, as raw material waste, if any, will be used in subsequent process or directed to incineration.

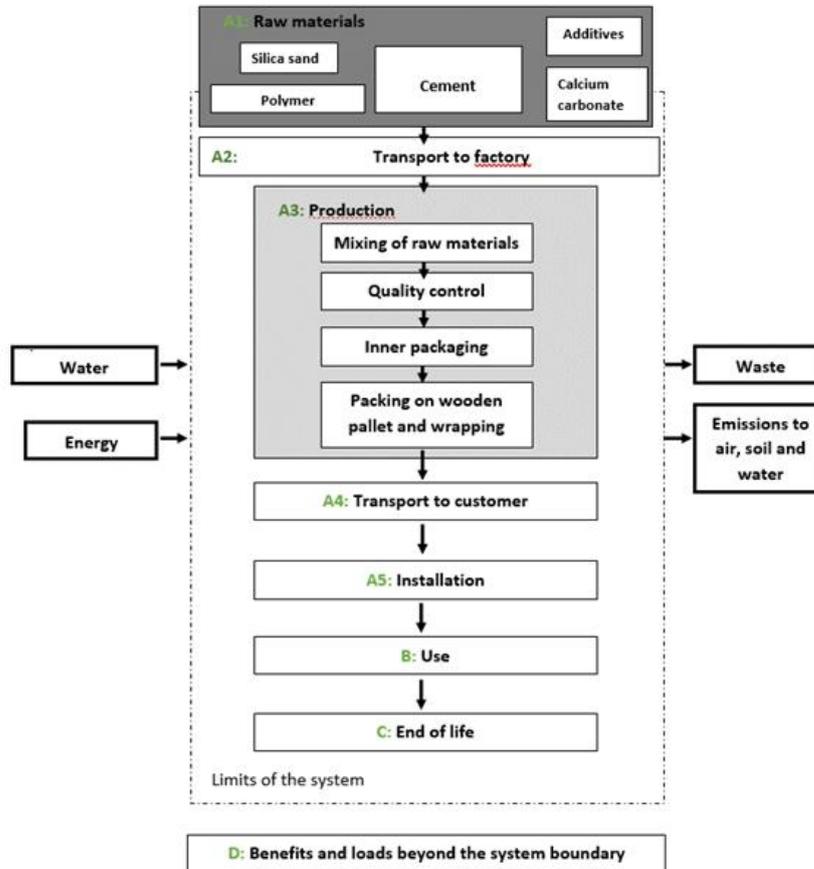


Figure 2: Limits of the system in this study.

**Construction process stage (A4-A5):**

- A4: distribution to typical customer by transport of packaged product from production gate to end user (building site). The customers of LIP Bygningsartikler A/S are primarily from Denmark. About 92 percent of the products produced by LIP at the production site in Nørre Aaby in Denmark, are sold in Denmark, 4 percent in Sweden, 2 percent in Norway and 1 percent in both Germany and the Netherlands. The distance has in the present LCA study been estimated to be 500km via road transport by a Euro 6 lorry of 32 metric ton.
- A5: installation of product into building, including required water and its blending energy. For installation, water consumption can be found in table 1. Mixing electricity consumption is assumed to be 0.216 MJ/kg. This is equivalent to the use of a 1200-Watt handheld mixer for 3 minutes. It is estimated that if the technician has experience and uses the same bucket of tile mortar product to reduce residue, 2-4 % could be expected. This estimate is expressed in the model by 5% loss instead, as a conservative approach. 5% loss has been advised to LIPs customers and LIP offers calculator with losses on LIPs website as a guide when buying products. No industry standard exists and PCR does not provide further guidance for any losses or spillage. The electricity mix is modelled with European mix and it is considered as an adequate choice, but since more than 90% of the market is in Denmark, Danish residual mix would be a better choice to consider in this study's validity period of 5 years.

**Use stage (B1-B7):**

- B1 to B7 are not declared (ND) as they are not applicable: the product does not need maintenance or replacement during its service life, if professionally used and properly installed.

**End of life stage (C1-C4):**

- C1: deconstruction and demolition of the product into the building. Wall Plasters for surface use are typically not considered as part of the structure of the building. However, during the building destruction, the quantity of extra energy required to break this application can be neglected compared to the energy required to demolish the structure of the building and are therefore not included in this LCA study.
- C2: transport of waste product from demolition to recycling/disposal facility that is waste collection. The distance covered is 50 km via road transport by a Euro 6 lorry of 32 metric ton.
- C3: The product is expected to be disposed in landfill after end of life, so waste processing is negligible.
- C4: Waste disposal including physical pre-treatment.

**D Reuse-Recovery-Recycling potential**

Module D calculates the potential environmental benefits of the recycling or reuse of materials. This product has not considerable benefits due to recycling or/and reuse.

**Environmental performance**

All the environmental impacts have been calculated in SimaPro and with the EN 15804 + A2 Method, which takes all the methods defined by the European Standard EN 15804 + A2 into account.

All the LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

The disclaimers can be found on ‘Programme-related information and verification’ section on page 27 of this EPD report.

**LIP 320 Wall plaster**

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

**Core environmental impact indicators**

Table 5: Core environmental impact results for the product LIP 320 Wall plaster

Indicator	Unit	Results per declared unit							
		A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	3,22E-01	4,35E-02	5,92E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	3,35E-01	4,35E-02	2,85E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,39E-02	3,42E-05	3,06E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	6,82E-04	1,64E-05	6,55E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	4,42E-08	1,08E-08	1,90E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	2,08E-03	1,39E-04	1,76E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	7,37E-05	2,84E-06	1,76E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	2,65E-04	3,11E-05	3,40E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	3,79E-03	3,39E-04	2,88E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	1,16E-03	1,34E-04	8,50E-05	0	1,33E-05	0	5,48E-05	0
ADP-minerals&metals**	kg Sb eq.	2,20E-06	1,04E-07	2,28E-07	0	1,04E-08	0	1,20E-08	0

<b>ADP-fossil**</b>	MJ	4,35E+00	7,08E-01	4,60E-01	0	7,08E-02	0	1,47E-01	0
<b>WDP **</b>	m <sup>3</sup>	1,20E-01	2,44E-03	1,99E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

**Additional environmental impact indicators**

Table 6: Additional environmental impact results for the product LIP 320 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
<b>GWP-GHG</b>	kg CO <sub>2</sub> eq.	2,43E-01	4,32E-02	3,51E-02	0	4,32E-03	0	5,18E-03	0
<b>PM</b>	disease inc.	2,22E-08	5,05E-09	1,05E-09	0	5,05E-10	0	9,97E-10	0
<b>IRP*</b>	kBq U235 eq	2,01E-02	3,58E-03	9,16E-03	0	3,58E-04	0	6,53E-04	0
<b>ETP-fw**</b>	CTUe	4,71E+00	5,53E-01	4,21E-01	0	5,53E-02	0	9,29E-02	0
<b>HTP-c**</b>	CTUh	2,34E-10	1,51E-11	2,06E-11	0	1,51E-12	0	2,36E-12	0
<b>HTP-nc**</b>	CTUh	4,86E-09	5,83E-10	4,48E-10	0	5,83E-11	0	6,15E-11	0
<b>SQP**</b>	Dimensionless	7,09E+00	8,12E-01	1,91E-01	0	8,09E-02	0	3,09E-01	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

**Use of resources**

Table 7: Resource use - LIP 320 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
<b>PERE</b>	MJ	6,15E-01	9,52E-03	7,72E-02	0	9,00E-04	0	1,25E-03	0
<b>PERM</b>	MJ	2,82E-01	0	0	0	0	0	0	0
<b>PERT</b>	MJ	8,96E-01	9,52E-03	7,72E-02	0	9,00E-04	0	1,25E-03	0
<b>PENRE</b>	MJ	4,35E+00	7,52E-01	4,92E-01	0	7,52E-02	0	1,56E-01	0
<b>PENRM</b>	MJ	3,99E-01	0	0	0	0	0	0	0
<b>PENRT</b>	MJ	4,75E+00	7,52E-01	4,92E-01	0	7,52E-02	0	1,56E-01	0
<b>SM</b>	kg	0	0	0	0	0	0	0	0
<b>RSF</b>	MJ	0	0	0	0	0	0	0	0
<b>NRSF</b>	MJ	0	0	0	0	0	0	0	0
<b>FW</b>	m <sup>3</sup>	1,09E-01	2,46E-03	1,87E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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**

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 8: Waste - LIP 320 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,80E-05	0	1,40E-06	0	0	0	0	0
Non-hazardous waste disposed	kg	2,53E-04	0	1,26E-05	0	0	0	0	0
Radioactive waste disposed	kg	2,82E-06	0	1,41E-07	0	0	0	0	0

**Output flows**

Table 9: Output flows - LIP 320 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

**Information on biogenic carbon content**

Table 10: Biogenic Carbon - LIP 320 Wall plaster

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO <sub>2</sub> .		

### LIP 330 Wall Repair Mortar

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

#### Core environmental impact indicators

Table 11 Core environmental impact results for the product LIP 330 Wall Repair Mortar

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	3,22E-01	4,35E-02	3,53E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	3,26E-01	4,35E-02	2,80E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-4,91E-03	4,34E-05	7,26E-03	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	6,44E-04	1,63E-05	6,52E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	4,31E-08	1,08E-08	1,83E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	2,03E-03	1,39E-04	1,72E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	5,83E-05	2,83E-06	1,74E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	2,41E-04	3,10E-05	2,54E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	3,55E-03	3,39E-04	2,71E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	1,10E-03	1,34E-04	7,73E-05	0	1,33E-05	0	5,48E-05	0
ADP- minerals&metals**	kg Sb eq.	2,18E-06	1,04E-07	2,27E-07	0	1,04E-08	0	1,20E-08	0
ADP-fossil**	MJ	4,23E+00	7,08E-01	4,55E-01	0	7,08E-02	0	1,47E-01	0
WDP **	m <sup>3</sup>	1,15E-01	2,44E-03	1,95E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

#### Additional environmental impact indicators

Table 12: Additional environmental impact results for the product LIP 330 Wall Repair Mortar

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	2,34E-01	4,32E-02	2,59E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	2,18E-08	5,05E-09	8,94E-10	0	5,05E-10	0	9,97E-10	0
IRP*	kBq U235 eq	1,82E-02	3,58E-03	9,11E-03	0	3,58E-04	0	6,53E-04	0
ETP-fw**	CTUe	4,65E+00	5,53E-01	3,86E-01	0	5,53E-02	0	9,29E-02	0
HTP-c**	CTUh	2,57E-10	1,51E-11	1,86E-11	0	1,51E-12	0	2,36E-12	0
HTP-nc**	CTUh	4,78E-09	5,83E-10	3,95E-10	0	5,83E-11	0	6,15E-11	0
SQP**	Dimensionless	4,84E+00	8,10E-01	1,86E-01	0	8,09E-02	0	3,09E-01	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

## Use of resources

Table 13: Resource use - LIP 330 Wall Repair Mortar

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	4,06E-01	9,12E-03	7,72E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	1,02E-01	0	0	0	0	0	0	0
PERT	MJ	5,09E-01	9,12E-03	7,72E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	4,23E+00	7,52E-01	4,86E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	3,99E-01	0	0	0	0	0	0	0
PENRT	MJ	4,63E+00	7,52E-01	4,86E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	1,04E-01	2,45E-03	1,84E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 14: Waste - LIP 330 Wall Repair Mortar

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,20E-04	0	2,10E-05	0	0	0	0	0
Non-hazardous waste disposed	kg	8,67E-03	0	4,33E-04	0	0	0	0	0
Radioactive waste disposed	kg	2,93E-06	0	1,46E-07	0	0	0	0	0

## Output flows

Table 15: Output flows - LIP 330 Wall Repair Mortar

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

## Information on biogenic carbon content

Table 16: Biogenic Carbon - LIP 330 Wall Repair Mortar

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	1,66E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO <sub>2</sub> .		

### LIP 350 Wall plaster

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

### Core environmental impact indicators

Table 17: Core environmental impact results for the product LIP 350 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	2,95E-01	4,35E-02	5,78E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	3,05E-01	4,35E-02	2,70E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,10E-02	3,42E-05	3,07E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	5,78E-04	1,64E-05	6,03E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	3,00E-08	1,08E-08	1,19E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	1,15E-03	1,39E-04	1,30E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	3,92E-05	2,84E-06	1,58E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	2,41E-04	3,11E-05	3,28E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	2,59E-03	3,39E-04	2,28E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	8,92E-04	1,34E-04	7,16E-05	0	1,33E-05	0	5,48E-05	0
ADP-minerals&metals**	kg Sb eq.	1,24E-06	1,04E-07	1,80E-07	0	1,04E-08	0	1,20E-08	0
ADP-fossil**	MJ	4,03E+00	7,08E-01	4,44E-01	0	7,08E-02	0	1,47E-01	0
WDP **	m <sup>3</sup>	5,52E-02	2,44E-03	1,49E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

### Additional environmental impact indicators

Table 18: Additional environmental impact results for the product LIP 350 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	3,03E-01	4,32E-02	3,81E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	8,92E-04	1,34E-04	7,16E-05	0	1,33E-05	0	5,48E-05	0
IRP*	kBq U235 eq	3,00E-08	1,08E-08	1,19E-09	0	1,08E-09	0	2,13E-09	0
ETP-fw**	CTUe	2,59E-03	3,39E-04	2,28E-04	0	3,39E-05	0	1,88E-04	0
HTP-c**	CTUh	2,46E-09	4,70E-10	2,94E-10	0	4,69E-11	0	2,55E-11	0
HTP-nc**	CTUh	5,78E-04	1,64E-05	6,03E-05	0	1,63E-06	0	4,97E-06	0
SQP**	Dimensionless	3,93E+00	5,53E-01	3,82E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

### Use of resources

Table 19: Resource use - LIP 350 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5,16E-01	9,52E-03	7,04E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	2,47E-01	0	0	0	0	0	0	0
PERT	MJ	7,63E-01	9,52E-03	7,04E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	3,50E+00	7,52E-01	4,68E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	7,74E-01	0	0	0	0	0	0	0
PENRT	MJ	4,28E+00	7,52E-01	4,68E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	4,94E-02	2,46E-03	1,41E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product are demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 20: Waste - LIP 350 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3,36E-03	0	1,68E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	7,22E-02	0	3,61E-03	0	0	0	0	0
Radioactive waste disposed	kg	5,68E-06	0	2,84E-07	0	0	0	0	0

### Output flows

Table 21: Output flows - LIP 350 Wall plaster

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

### Information on biogenic carbon content

Table 22: Biogenic Carbon - LIP 350 Wall plaster

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO <sub>2</sub> .		

### LIP 350 Wall plaster white

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

#### Core environmental impact indicators

Table 23: Core environmental impact results for the product LIP 350 Wall plaster white

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	4,05E-01	4,35E-02	6,33E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	4,15E-01	4,35E-02	3,25E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,13E-02	3,42E-05	3,07E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	6,24E-04	1,64E-05	6,26E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	3,90E-08	1,08E-08	1,64E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	2,87E-03	1,39E-04	2,16E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	7,10E-05	2,84E-06	1,74E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	3,69E-04	3,11E-05	3,92E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	3,80E-03	3,39E-04	2,89E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	1,49E-03	1,34E-04	1,02E-04	0	1,33E-05	0	5,48E-05	0
ADP- minerals&metals**	kg Sb eq.	2,21E-06	1,04E-07	2,28E-07	0	1,04E-08	0	1,20E-08	0
ADP-fossil**	MJ	5,64E+00	7,08E-01	5,24E-01	0	7,08E-02	0	1,47E-01	0
WDP **	m <sup>3</sup>	1,58E+00	2,44E-03	9,03E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

#### Additional environmental impact indicators

Table 24: Additional environmental impact results for the product LIP 350 Wall plaster white

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	4,07E-01	4,32E-02	4,33E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	1,49E-03	1,34E-04	1,02E-04	0	1,33E-05	0	5,48E-05	0
IRP*	kBq U235 eq	3,90E-08	1,08E-08	1,64E-09	0	1,08E-09	0	2,13E-09	0
ETP-fw**	CTUe	3,80E-03	3,39E-04	2,89E-04	0	3,39E-05	0	1,88E-04	0
HTP-c**	CTUh	3,59E-09	4,70E-10	3,50E-10	0	4,69E-11	0	2,55E-11	0
HTP-nc**	CTUh	6,24E-04	1,64E-05	6,26E-05	0	1,63E-06	0	4,97E-06	0
SQP**	Dimensionless	4,39E+00	5,53E-01	4,05E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

## Use of resources

Table 25: Resource use – LIP 350 Wall plaster white

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5,24E-01	9,52E-03	7,08E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	2,47E-01	0	0	0	0	0	0	0
PERT	MJ	7,71E-01	9,52E-03	7,08E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	4,29E+00	7,52E-01	5,07E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	7,74E-01	0	0	0	0	0	0	0
PENRT	MJ	5,06E+00	7,52E-01	5,07E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	1,24E-01	2,46E-03	1,70E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 26: Waste - LIP 350 Wall plaster white

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,45E-03	0	1,22E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	4,95E-02	0	2,47E-03	0	0	0	0	0
Radioactive waste disposed	kg	5,64E-06	0	2,82E-07	0	0	0	0	0

## Output flows

Table 27: Output flows - LIP 350 Wall plaster white

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

## Information on biogenic carbon content

Table 28: Biogenic Carbon - LIP 350 Wall plaster white

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO <sub>2</sub> .		

### LIP 360 Wall plaster light

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

### Core environmental impact indicators

Table 29: Core environmental impact results for the product LIP 360 Wall plaster light

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	5,53E-01	4,35E-02	7,07E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	6,06E-01	4,35E-02	4,21E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-5,38E-02	3,42E-05	2,86E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	7,65E-04	1,64E-05	6,97E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	7,70E-08	1,08E-08	3,54E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	3,42E-03	1,39E-04	2,44E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	1,40E-04	2,84E-06	2,09E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	5,23E-03	3,39E-04	3,61E-04	0	3,39E-05	0	1,88E-04	0
EP-terrestrial	mol N eq.	1,73E-03	1,34E-04	1,14E-04	0	1,33E-05	0	5,48E-05	0
POCP	kg NMVOC eq.	3,98E-06	1,04E-07	3,17E-07	0	1,04E-08	0	1,20E-08	0
ADP-minerals&metals**	kg Sb eq.	8,08E+00	7,08E-01	6,47E-01	0	7,08E-02	0	1,47E-01	0
ADP-fossil**	MJ	2,53E-01	2,44E-03	2,82E-02	0	2,43E-04	0	6,62E-03	0
WDP **	m <sup>3</sup>	5,53E-01	4,35E-02	7,07E-02	0	4,35E-03	0	5,28E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

### Additional environmental impact indicators

Table 30: Additional environmental impact results for the product LIP 360 Wall plaster light

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	5,99E-01	4,32E-02	5,29E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	1,73E-03	1,34E-04	1,14E-04	0	1,33E-05	0	5,48E-05	0
IRP*	kBq U235 eq	7,70E-08	1,08E-08	3,54E-09	0	1,08E-09	0	2,13E-09	0
ETP-fw**	CTUe	5,23E-03	3,39E-04	3,61E-04	0	3,39E-05	0	1,88E-04	0
HTP-c**	CTUh	5,81E-09	4,70E-10	4,63E-10	0	4,69E-11	0	2,55E-11	0
HTP-nc**	CTUh	7,65E-04	1,64E-05	6,97E-05	0	1,63E-06	0	4,97E-06	0
SQP**	Dimensionless	9,54E+00	5,53E-01	6,63E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

### Use of resources

Table 31: Resource use - LIP 360 Wall plaster light

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	9,81E-01	9,52E-03	1,34E-01	0	9,00E-04	0	1,25E-03	0
PERM	MJ	1,05E+00	0	0	0	0	0	0	0
PERT	MJ	2,03E+00	9,52E-03	1,34E-01	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	7,75E+00	7,52E-01	6,85E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	8,65E-01	0	0	0	0	0	0	0
PENRT	MJ	8,62E+00	7,52E-01	6,85E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	2,40E-01	2,46E-03	2,70E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product are demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 32: Waste - LIP 360 Wall plaster light

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,01E-03	0	2,01E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	8,61E-02	0	4,31E-03	0	0	0	0	0
Radioactive waste disposed	kg	3,50E-06	0	1,75E-07	0	0	0	0	0

### Output flows

Table 33: Output flows - LIP 360 Wall plaster light

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

### Information on biogenic carbon content

Table 34: Biogenic Carbon - LIP 360 Wall plaster light

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2.		

### LIP Wall adhesive

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

### Core environmental impact indicators

Table 35: Core environmental impact results for the product LIP Wall adhesive

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	3,44E-01	4,35E-02	6,02E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	3,56E-01	4,35E-02	2,96E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,29E-02	3,42E-05	3,06E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	5,72E-04	1,64E-05	6,00E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	3,26E-08	1,08E-08	1,32E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	1,35E-03	1,39E-04	1,40E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	4,18E-05	2,84E-06	1,60E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	2,55E-04	3,11E-05	3,36E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	2,82E-03	3,39E-04	2,40E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	9,06E-04	1,34E-04	7,23E-05	0	1,33E-05	0	5,48E-05	0
ADP-minerals&metals**	kg Sb eq.	1,68E-06	1,04E-07	2,02E-07	0	1,04E-08	0	1,20E-08	0
ADP-fossil**	MJ	2,94E+00	7,08E-01	3,90E-01	0	7,08E-02	0	1,47E-01	0
WDP **	m <sup>3</sup>	4,45E-02	2,44E-03	1,56E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

### Additional environmental impact indicators

Table 36: Additional environmental impact results for the product LIP Wall adhesive

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	3,55E-01	4,32E-02	4,07E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	9,06E-04	1,34E-04	7,23E-05	0	1,33E-05	0	5,48E-05	0
IRP*	kBq U235 eq	3,26E-08	1,08E-08	1,32E-09	0	1,08E-09	0	2,13E-09	0
ETP-fw**	CTUe	2,82E-03	3,39E-04	2,40E-04	0	3,39E-05	0	1,88E-04	0
HTP-c**	CTUh	2,86E-09	4,70E-10	3,14E-10	0	4,69E-11	0	2,55E-11	0
HTP-nc**	CTUh	5,72E-04	1,64E-05	6,00E-05	0	1,63E-06	0	4,97E-06	0
SQP**	Dimensionless	5,09E+00	5,53E-01	4,40E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

## Use of resources

Table 37: Resource use - LIP Wall adhesive

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5,60E-01	9,52E-03	7,39E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	2,73E-01	0	0	0	0	0	0	0
PERT	MJ	8,33E-01	9,52E-03	7,39E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	3,04E+00	7,52E-01	4,08E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	4,49E-02	0	0	0	0	0	0	0
PENRT	MJ	3,08E+00	7,52E-01	4,08E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	3,73E-02	2,46E-03	1,48E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 38: Waste - LIP Wall adhesive

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5,49E-03	0	2,74E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	1,18E-01	0	5,89E-03	0	0	0	0	0
Radioactive waste disposed	kg	2,93E-06	0	1,47E-07	0	0	0	0	0

## Output flows

Table 39: Output flows - LIP Wall adhesive

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

## Information on biogenic carbon content

Table 40: Biogenic Carbon - LIP Wall adhesive

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2.		

### LIP Wall adhesive coarse

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

### Core environmental impact indicators

Table 41: Core environmental impact results for the product LIP Wall adhesive coarse

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
<b>GWP- total</b>	kg CO <sub>2</sub> eq.	3,06E-01	4,35E-02	5,84E-02	0	4,35E-03	0	5,28E-03	0
<b>GWP-fossil</b>	kg CO <sub>2</sub> eq.	3,18E-01	4,35E-02	2,77E-02	0	4,35E-03	0	5,27E-03	0
<b>GWP-biogenic</b>	kg CO <sub>2</sub> eq.	-1,29E-02	3,42E-05	3,06E-02	0	4,62E-06	0	5,72E-06	0
<b>GWP- luluc</b>	kg CO <sub>2</sub> eq.	6,02E-04	1,64E-05	6,15E-05	0	1,63E-06	0	4,97E-06	0
<b>ODP</b>	kg CFC 11 eq.	3,21E-08	1,08E-08	1,29E-09	0	1,08E-09	0	2,13E-09	0
<b>AP</b>	mol H <sup>+</sup> eq.	1,25E-03	1,39E-04	1,35E-04	0	1,39E-05	0	4,95E-05	0
<b>EP-freshwater</b>	kg PO <sub>4</sub> <sup>3-</sup> eq.	4,17E-05	2,84E-06	1,59E-05	0	2,83E-07	0	4,82E-07	0
<b>EP- marine</b>	kg N eq.	2,44E-04	3,11E-05	3,30E-05	0	3,10E-06	0	1,72E-05	0
<b>EP-terrestrial</b>	mol N eq.	2,67E-03	3,39E-04	2,32E-04	0	3,39E-05	0	1,88E-04	0
<b>POCP</b>	kg NMVOC eq.	8,57E-04	1,34E-04	6,99E-05	0	1,33E-05	0	5,48E-05	0
<b>ADP-minerals&amp;metals**</b>	kg Sb eq.	1,57E-06	1,04E-07	1,96E-07	0	1,04E-08	0	1,20E-08	0
<b>ADP-fossil**</b>	MJ	2,82E+00	7,08E-01	3,84E-01	0	7,08E-02	0	1,47E-01	0
<b>WDP **</b>	m <sup>3</sup>	4,28E-02	2,44E-03	1,56E-02	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

### Additional environmental impact indicators

Table 42: Additional environmental impact results for the product LIP Wall adhesive coarse

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
<b>GWP-GHG</b>	kg CO <sub>2</sub> eq.	3,17E-01	4,32E-02	3,88E-02	0	4,32E-03	0	5,18E-03	0
<b>PM</b>	disease inc.	8,57E-04	1,34E-04	6,99E-05	0	1,33E-05	0	5,48E-05	0
<b>IRP*</b>	kBq U235 eq	3,21E-08	1,08E-08	1,29E-09	0	1,08E-09	0	2,13E-09	0
<b>ETP-fw**</b>	CTUe	2,67E-03	3,39E-04	2,32E-04	0	3,39E-05	0	1,88E-04	0
<b>HTP-c**</b>	CTUh	2,67E-09	4,70E-10	3,05E-10	0	4,69E-11	0	2,55E-11	0
<b>HTP-nc**</b>	CTUh	6,02E-04	1,64E-05	6,15E-05	0	1,63E-06	0	4,97E-06	0
<b>SQP**</b>	Dimensionless	4,69E+00	5,53E-01	4,20E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

### Use of resources

Table 43: Resource use - LIP Wall adhesive coarse

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5,41E-01	9,52E-03	7,29E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	2,71E-01	0	0	0	0	0	0	0
PERT	MJ	8,12E-01	9,52E-03	7,29E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	2,93E+00	7,52E-01	4,02E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	4,49E-02	0	0	0	0	0	0	0
PENRT	MJ	2,97E+00	7,52E-01	4,02E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	3,69E-02	2,46E-03	1,47E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 44: Waste - LIP Wall adhesive coarse

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,42E-03	0	2,21E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	9,50E-02	0	4,75E-03	0	0	0	0	0
Radioactive waste disposed	kg	2,59E-06	0	1,30E-07	0	0	0	0	0

### Output flows

Table 45: Output flows - LIP Wall adhesive coarse

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

### Information on biogenic carbon content

Table 46: Biogenic Carbon - LIP Wall adhesive coarse

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	7,25E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO <sub>2</sub> .		

### LIP Wall adhesive -5

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding thresholds values, safety margins or risks.

#### Core environmental impact indicators

Table 47 Core environmental impact results for the product LIP Wall adhesive -5

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP- total	kg CO <sub>2</sub> eq.	3,56E-01	4,35E-02	5,61E-02	0	4,35E-03	0	5,28E-03	0
GWP-fossil	kg CO <sub>2</sub> eq.	3,67E-01	4,35E-02	3,02E-02	0	4,35E-03	0	5,27E-03	0
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,08E-02	3,61E-05	2,58E-02	0	4,62E-06	0	5,72E-06	0
GWP- luluc	kg CO <sub>2</sub> eq.	5,31E-04	1,64E-05	5,81E-05	0	1,63E-06	0	4,97E-06	0
ODP	kg CFC 11 eq.	3,56E-08	1,08E-08	1,46E-09	0	1,08E-09	0	2,13E-09	0
AP	mol H <sup>+</sup> eq.	1,70E-03	1,39E-04	1,57E-04	0	1,39E-05	0	4,95E-05	0
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	3,96E-05	2,84E-06	1,59E-05	0	2,83E-07	0	4,82E-07	0
EP- marine	kg N eq.	5,90E-04	3,11E-05	4,87E-05	0	3,10E-06	0	1,72E-05	0
EP-terrestrial	mol N eq.	4,57E-03	3,39E-04	3,25E-04	0	3,39E-05	0	1,88E-04	0
POCP	kg NMVOC eq.	1,28E-03	1,34E-04	9,00E-05	0	1,33E-05	0	5,48E-05	0
ADP- minerals&metals**	kg Sb eq.	1,28E-06	1,04E-07	1,81E-07	0	1,04E-08	0	1,20E-08	0
ADP-fossil**	MJ	2,97E+00	7,08E-01	3,90E-01	0	7,08E-02	0	1,47E-01	0
WDP **	m <sup>3</sup>	4,37E-02	2,44E-03	5,68E-03	0	2,43E-04	0	6,62E-03	0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

#### Additional environmental impact indicators

Table 48: Additional environmental impact results for the product LIP Wall adhesive -5

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	3,64E-01	4,32E-02	3,95E-02	0	4,32E-03	0	5,18E-03	0
PM	disease inc.	9,06E-04	1,34E-04	7,23E-05	0	1,33E-05	0	5,48E-05	0
IRP*	kBq U235 eq	3,26E-08	1,08E-08	1,32E-09	0	1,08E-09	0	2,13E-09	0
ETP-fw**	CTUe	2,82E-03	3,39E-04	2,40E-04	0	3,39E-05	0	1,88E-04	0
HTP-c**	CTUh	2,86E-09	4,70E-10	3,14E-10	0	4,69E-11	0	2,55E-11	0
HTP-nc**	CTUh	5,72E-04	1,64E-05	6,00E-05	0	1,63E-06	0	4,97E-06	0
SQP**	Dimensionless	5,09E+00	5,53E-01	4,40E-01	0	5,53E-02	0	9,29E-02	0
Acronyms	GWP-GHG: The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.  PM = Particulate Matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality.								

## Use of resources

Table 49: Resource use - LIP Wall adhesive -5

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5,97E-01	9,52E-03	7,29E-02	0	9,00E-04	0	1,25E-03	0
PERM	MJ	2,36E-01	0	0	0	0	0	0	0
PERT	MJ	8,33E-01	9,52E-03	7,39E-02	0	9,00E-04	0	1,25E-03	0
PENRE	MJ	3,03E+00	7,52E-01	4,08E-01	0	7,52E-02	0	1,56E-01	0
PENRM	MJ	4,90E-02	0	0	0	0	0	0	0
PENRT	MJ	3,08E+00	7,52E-01	4,08E-01	0	7,52E-02	0	1,56E-01	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	3,73E-02	2,46E-03	1,48E-02	0	2,45E-04	0	6,63E-03	0
Acronyms	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 re-sources; 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

At end of use, when the hardened product is demolished, the LIP Wall plasters are non-hazardous building waste. The waste from packing material is also assumed to be non-hazardous waste.

Table 50: Waste - LIP Wall adhesive -5

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5,49E-03	0	2,74E-04	0	0	0	0	0
Non-hazardous waste disposed	kg	1,18E-01	0	5,89E-03	0	0	0	0	0
Radioactive waste disposed	kg	2,93E-06	0	1,47E-07	0	0	0	0	0

## Output flows

Table 51: Output flows - LIP Wall adhesive -5

Results per declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	6,00E-04	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

## Information on biogenic carbon content

Table 52: Biogenic Carbon - LIP Wall adhesive -5

	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	6,10E-03
Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2.		

## Additional information

### Fossil free energy:

LIP Bygningsartikler A/S has used fossil free energy since 2014. Today, the energy is delivered from the wind turbine power plant at LINDØ port of Odense from Energy Fyn. The total energy consumption on the site is equivalent to 1100 MWh per year.



## Information related to Sector EPD

This is an individual EPD.

## Differences versus previous versions

**28-06-2022 (version 2):** The reason for updating the EPD is the addition of one product that has similarities with two products assessed in the first version of the EPD. The difference among the products is that LIP 330 Wall Repair Plaster is packed in paper bag of 5 kg instead of 20 kg paper that is used for LIP 320 Wall Plaster. More specific information was provided by the supplier of packaging resulting in improvement in the calculation of climate change biogenic carbon.

**03-02-2023 (version 3, this version):** The reason for updating the EPD is the addition of one product, LIP Wall adhesive coarse-5, that has similarities with the seven products assessed in the second EPD declaration. More specifically, LIP Wall adhesive coarse-5 is names, technical characteristics and compositions match better with the products represented in this EPD. In addition, more specific verified data from suppliers were obtained and integrated with the processes from the generic LCA software database, leading in maximum 5% variation compared to version 3 of this EPD.

## References

Project Report - LIP Wall Plasters, LIP Bygningsartikler A/S, 2023

General Programme Instruction of the International EPD® System. Version 3.01.

ISO 14025:2010 Environmental labels and declarations-Type III Environmental Declarations-Principles and procedures

ISO 14040:2006 Environmental Management-Life Cycle Assessment-Principles and framework

ISO 14044:2006 Environmental Management-Life Cycle Assessment-Requirements and guidelines

PCR 2019:14 Construction products (EN 15804:A2) version 1.11

EN 15804:2012+A2:2019 Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products

DS/EN: 998-1 for rendering/plastering wall plasters based on inorganic binders for external (rendering) and internal (plastering) use on walls, ceilings, columns and partitions.

## Programme-related information and verification

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. EPDs of construction products may not be comparable if they do not comply with EN 15804.

<b>Programme:</b>	The International EPD® System  EPD International AB Box 210 60 SE-100 31 Stockholm
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	Sweden  <a href="http://www.environdec.com">www.environdec.com</a> <a href="mailto:info@environdec.com">info@environdec.com</a>
<b>EPD registration number:</b>	S-P-04248
<b>Published:</b>	2021-11-02 (version 1)
<b>Revised:</b>	2022-06-28 (version 2)
	2023-02-03 (version 3)
<b>Valid until:</b>	2026-10-28 (version 1, 2, 3)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction products (EN 15804:A2) Version 1.11.
PCR review was conducted by: The Technical Committee of the International EPD® System. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a>
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: Bureau Veritas Certification Sverige AB  Accredited by: SWEDAC with accreditation number 1236
Procedure for follow-up of data during EPD validity involves third party verifier:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

\*Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

\*\*Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

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