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Environmental Product Declaration

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

LIP Floor Screeds

from LIP Bygningsartikler A/S



| | |
|---------------------------------|---|
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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

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. EPDs' of other construction products may not be comparable if they do not comply with this standard.

Scope: This LCA study is intended to be used in a cradle to grave with module D EPD covering the following floor screeds 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 210 Floor Screed, LIP 215 Floor Screed, LIP 220 Floor Screed, LIP 222 Floor Screed, LIP 226 Floor Screed, LIP 228 Floor Screed, LIP 230 Floor Screed, LIP 245 Floor Screed, LIP 250 Floor Screed, LIP 255 Floor Screed.



Figure 1: Pictures of the ten LIP 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, to produce a deformable cementitious adhesive of high performance.

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

| Product name | | Article no. | Description |
|---|--|----------------|--|
| Danish | English | | |
| LIP 210 Selvnivellerende Gulvspartelmasse | LIP 210 Floor Screed | 240009 | 20 kg bags Grey cement based 0.23L water per kg |
| LIP 215 Selvnivellerende Gulvspartelmasse | LIP 215 Floor Screed | 240016 | 20 kg bags Grey cement based 0.25L water per kg |
| LIP 220 Selvnivellerende Gulvspartelmasse | LIP 220 Floor Screed | 240023 | 20 kg bags Grey cement based 0.2L water per kg |
| LIP 222 Selvnivellerende Gulvspartelmasse | LIP 222 Floor Screed | 240061 | 20 kg bags Grey cement based 0.2L water per kg |
| LIP 226 Selvnivellerende Fiberspartel | LIP 226 Floor Screed | 240030 | 20 kg bags Grey cement based 0.2L water per kg |
| LIP 228 Selvnivellerende Gulvspartelmasse | LIP 228 Floor Screed | 240047 | 20 kg bags Grey cement based 0.2L water per kg |
| LIP 230/Bostik 3050 Fine Plus | LIP 230 Floor Screed/Bostik 3050 Fine Plus | 4411880/441881 | 15 kg bags Grey cement based 0.26-0.32L water per kg |
| LIP 245 Hurtighærdende Opretningsmasse | LIP 245 Floor Screed | 242027 | 15 kg bags Grey cement based 0.22L water per kg |
| LIP 250 Projektspartel | LIP 250 Floor Screed | 241006 | 20 kg bags Grey cement based 0.19-0.21L water per kg |
| LIP 255 Selvnivellerende Gulvspartelmasse | LIP 255 Floor Screed | 241013 | 20 kg bags Grey cement based 0.18-0.2L water per kg |

Declared Unit

Declared unit is 1 kg of finished product according to the PCR 2019-14 PCR Construction products v1.11.

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

Reference service life

According to LIP Bygningsartikler A/S experience, the Reference Service Life (RSL) of premade floor screeds has been known to be 50 years or longer.

Technical data

The products are designed, produced and CE marked according to EN 13813:2003 (Screed material and floor screeds – screed material – properties and requirements).

They are classified as seen in table 2 according to EN 13813: :2003 Screed material and floor screeds – screed material – properties and requirements.

Table 2: Performance information for the 10 floor screed products according to EN 13813:2003.

| | LIP 210 Floor Screed | LIP 215 Floor Screed | LIP 220 Floor Screed | LIP 222 Floor Screed | LIP 226 Fiber Screed | LIP 228 Outdoor Floor Screed | LIP 230 Floor Screed/ Bostik 3050 Fine Plus | LIP 245 Floor Screed | LIP 250 Floor Screed | LIP 255 Floor Screed |
|------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------------|---|-------------------------|-------------------------|----------------------|
| Standard | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 | EN 13813 |
| Classification | CT-C35-F8 | CT-C35-F9 | CT-C30-F6 | CT-C30-F7 | CT-C30-F7 | CT-C40-F10 | CT-C30-F8 / F7 | CT-C25-F6 | CT-C30-F6 | CT-C25-F6 |
| Compressive strength | 30-35 N/mm ² | 35-40 N/mm ² | 30-35 N/mm ² | 30-35 N/mm ² | 30-35 N/mm ² | 40-50 N/mm ² | Min. 25-30 N/mm ² | 35-45 N/mm ² | 30-35 N/mm ² | N/A |
| Flexural strength | > 2 N/mm ² | > 2 N/mm ² | ≥ 1.5 N/mm ² | ≥ 2 N/mm ² | ≥ 1.5 N/mm ² | > 2 N/mm ² | > 1 MPa | N/A | > 2 N/mm ² | N/A |
| Adhesion strength on concrete | > 2 N/mm ² | > 2 N/mm ² | ≥ 1.5 N/mm ² | ≥ 2 N/mm ² | ≥ 1.5 N/mm ² | > 2 N/mm ² | > 1 MPa | N/A | > 2 N/mm ² | N/A |
| Abrasion resistance: DS/EN 13892-5 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | RWA100 |

Air emission

All the ten floor screeds covered in this EPD has low dust technology and very low emission of volatile organic compounds and documented with GEV-EMICODE EC 1^{PLUS}. Documentation attached for GEV-EMICODE.



Content declaration

Content declaration including packaging covering the ten LIP Floor screeds in this EPD.

Table 3: Content declaration, which covers the ten floor screed products. Packing material information is per kg product. 1 declared unit is 1kg of product. Data given by LIP Byggningsartikler A/S

| LIP Floor Screeds | | | |
|---------------------|---------|------------------|----------------------------------|
| Product components | | Weight % | Post-consumer material, weight-% |
| Silica sand | | 10 - 60 | 0% |
| Cement | | 10 - 40 | 0% |
| Calcium carbonate | | 10 - 40 | 0% |
| Additives | | 10 - 25 | 0% |
| Packaging materials | | Weight, kg | Weight-% (versus the product) |
| Bags | Paper | 12 g/kg product | 1.2 % |
| | PE-film | 0.5 g/kg product | 0.05 % |
| Transport packaging | PE-film | 0.6 g/kg product | 0.06 % |
| Total: | | | <1.5% |

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 2020 and 2021.

Database(s) and LCA software used

LCA Software: Simapro 9.1.0.7

Database: Ecoinvent 3.6 (2019) – allocation, cut-off by classification – unit.

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.

Description of system boundaries

This study covers the cradle to grave with module D of PCR 2019-14 PCR Construction products v1.11.

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 | NR | NR | NR | NR | NR | NR | NR | X | X | X | X | X | |
| Geography | Europe | | Denmark | Europe | | | | | | | | | | | | | | |
| Process type | Upstream | | Processes the manufacture has influence over | Downstream | | | | | | | | | | | | | | |
| Data type | Generic | | Specific | Specific | | | | | | | | | | | | | | |
| Variation – products | Worst-case product, resulting in the largest environmental impact per declared unit is LIP 230 Floor Screed / Bostik 3050 Fine Plus. 34% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 210 Floor Screed. | | | - | | | | | | | | | | | | | | |

| | | |
|-------------------|---|---|
| | <p>12% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 215 Floor Screed.</p> <p>44% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 220 Floor Screed.</p> <p>50% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 222 Floor Screed.</p> <p>44% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 226 Floor Screed.</p> <p>63% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 228 Floor Screed.</p> <p>44% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 245 Floor Screed.</p> <p>58% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 250 Floor Screed.</p> <p>58% variation in GWP-GHG between LIP 230 Floor Screed / Bostik 3050 Fine Plus and LIP 255 Floor Screed.</p> | |
| 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.

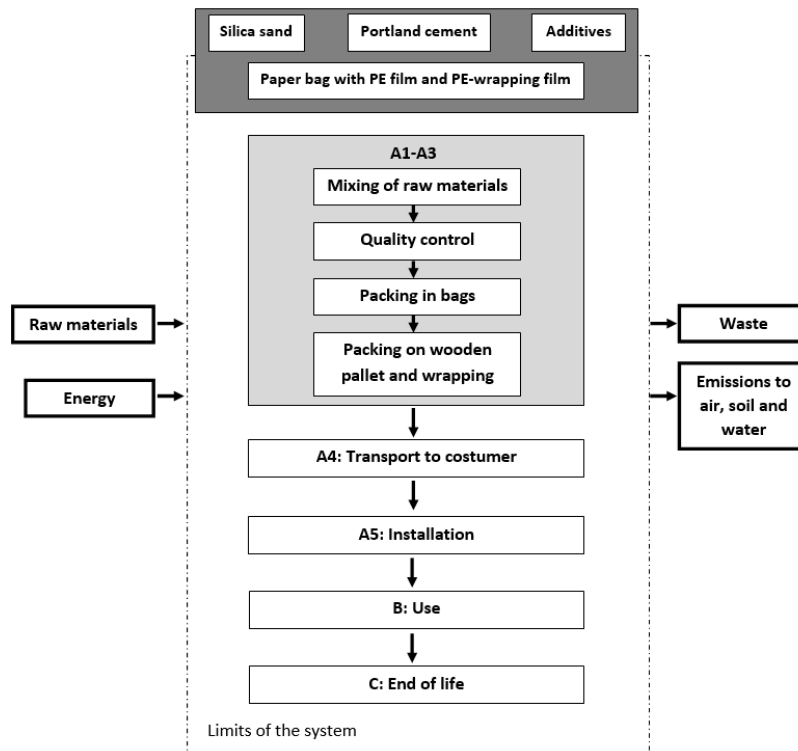


Figure 2: Limits of the system in this study.

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 0.135 MJ/kg. This is equivalent to the use of a 1200-Watt handheld mixer for 3 minutes. We assume that there are no losses during installation. There is no sector specific standard for any losses or spillage. The product can be used in 12 months or 18 months. 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 relevant (NR) as they are not applicable: the product does not need maintenance or replacement during its RSL. If professionally used and properly installed and according to LIP Bygningsartikler A/S experience, the Reference Service Life (RSL) of floor screeds has been known to be 50 years or longer.

End of life stage (C1-C4):

- C1: deconstruction and demolition of the product into the building. Floor screeds 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 is assumed to be 50 km via road transport by a Euro 6 lorry of 32 metric ton.
- C3: The product is expected to be disposed as landfill after end of life.
- 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.

LIP 210 Floor Screed

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 210 Floor Screed.

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 7,13E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 7,27E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,41E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 5,39E-04 | 1,33E-05 | 3,76E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 5,92E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 3,21E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 1,91E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 6,23E-05 | 1,05E-06 | 5,28E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 5,47E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 6,30E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,69E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP- minerals&metals** | kg Sb eq. | 3,34E-05 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 7,84E+00 | 7,07E-01 | 3,33E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 2,83E-01 | 2,30E-03 | 1,36E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 210 Floor Screed.

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 7,37E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,49E-08 | 3,82E-09 | 2,77E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 6,54E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,35E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 3,52E-10 | 1,37E-11 | 6,07E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 1,27E-08 | 6,19E-10 | 2,06E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,41E+00 | 8,10E-01 | 8,13E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-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 almost 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 210 Floor Screed.

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 1,02E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,98E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,22E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 7,56E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 8,29E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 8,39E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 2,71E-01 | 2,34E-03 | 8,48E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor Screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 8: Waste - LIP 210 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 9,83E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 7,57E-02 | 6,15E-02 | 1,14E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 2,79E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 9: Output flows - LIP 210 Floor Screed

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

Information on biogenic carbon content

Table 10: Biogenic Carbon - LIP 210 Floor Screed

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 215 Floor Screed

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 11: Core environmental impact results for the product LIP 215 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 9,45E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 9,57E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,31E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 6,70E-04 | 1,33E-05 | 3,76E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 7,61E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 3,88E-03 | 1,40E-04 | 9,45E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 2,52E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 8,19E-05 | 1,05E-06 | 5,28E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 6,63E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 7,52E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 2,05E-03 | 1,34E-04 | 3,76E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 3,93E-05 | 7,75E-07 | 1,20E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 1,02E+01 | 7,07E-01 | 3,33E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 3,34E-01 | 2,30E-03 | 1,45E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-03 | 0 |
| Acronyms | <p>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</p> | | | | | | | | | |

Additional environmental impact indicators

Table 12: Additional environmental impact results for the product LIP 215 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 9,71E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,81E-08 | 3,82E-09 | 2,77E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 9,17E-02 | 3,60E-03 | 8,80E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,66E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 4,37E-10 | 1,37E-11 | 6,09E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 1,68E-08 | 6,19E-10 | 2,06E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,84E+00 | 8,10E-01 | 8,13E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-01 | 0 |
| Acronyms | <p>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.</p> <p>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.</p> | | | | | | | | | |

Use of resources

Table 13: Resource use - LIP 215 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 1,27E+00 | 8,90E-03 | 6,30E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,95E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,47E+00 | 8,90E-03 | 6,30E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 9,82E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 1,07E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1,09E+01 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 3,18E-01 | 2,34E-03 | 8,89E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 14: Waste - LIP 215 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 1,20E-05 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 9,13E-02 | 6,15E-02 | 1,14E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 3,79E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 15: Output flows - LIP 215 Floor Screed

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

Information on biogenic carbon content

Table 16: Biogenic Carbon - LIP 215 Floor Screed

| | Unit | Quantity |
|--------------------------------------|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |

Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.

LIP 220 Floor Screed

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 220 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 5,94E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 6,09E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,46E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 4,67E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 5,00E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 2,73E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 1,60E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 5,22E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 4,72E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 5,42E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,46E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 2,77E-05 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 6,60E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 2,40E-01 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 220 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 6,17E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,20E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 5,43E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,16E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 2,96E-10 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 1,06E-08 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,18E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-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 19: Resource use - LIP 220 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 9,15E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,97E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,11E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 6,34E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 7,20E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 7,06E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 2,29E-01 | 2,34E-03 | 7,86E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 20: Waste - LIP 220 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 8,44E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 6,54E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 2,35E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 21: Output flows - LIP 220 Floor Screed

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

Information on biogenic carbon content

Table 22: Biogenic Carbon - LIP 220 Floor Screed

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 222 Floor Screed

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 222 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 5,37E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 5,52E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,55E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 4,42E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 4,67E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 2,55E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 1,49E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 4,84E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 4,38E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 5,00E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,38E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 2,54E-05 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 6,61E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 2,33E-01 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 222 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|------------------------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 5,60E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,11E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 5,01E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,08E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 2,72E-10 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 9,77E-09 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,20E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-01 | 0 |

| | |
|----------|--|
| Acronyms | <p>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.</p> <p>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.</p> |
|----------|--|

Use of resources

Table 25: Resource use - LIP 222 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 8,89E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,92E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,08E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 6,11E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 9,64E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 7,08E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 2,23E-01 | 2,34E-03 | 7,86E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-03 | 0 |
| Acronyms | <p>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</p> | | | | | | | | | |

Waste production

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

Table 26: Waste - LIP 222 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 7,86E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 6,13E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 2,17E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 27: Output flows - LIP 222 Floor Screed

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

Information on biogenic carbon content

Table 28: Biogenic Carbon LIP 222 Floor Screed

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 226 Floor Screed

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 226 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 5,95E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP- fossil | kg CO ₂ eq. | 6,09E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,46E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 4,67E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 5,00E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 2,73E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 1,60E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 5,22E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 4,72E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 5,43E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,46E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 2,77E-05 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 6,61E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 2,40E-01 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 226 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|------------------------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 6,17E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,20E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 5,43E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,16E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 2,97E-10 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 1,06E-08 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,18E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-01 | 0 |

| | |
|----------|--|
| Acronyms | <p>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.</p> <p>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.</p> |
|----------|--|

Use of resources

Table 31: Resource use - LIP 226 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 9,14E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,97E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,11E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 6,35E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 7,20E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 7,07E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 2,71E-01 | 2,34E-03 | 8,48E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-03 | 0 |
| Acronyms | <p>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</p> | | | | | | | | | |

Waste production

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

Table 32: Waste - LIP 226 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 8,44E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 6,54E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 2,35E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 33: Output flows - LIP 226 Floor Screed

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

Information on biogenic carbon content

Table 34: Biogenic Carbon - LIP 226 Floor Screed

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 228 Floor Screed

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 228 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 3,91E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP- fossil | kg CO ₂ eq. | 4,05E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,40E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 2,29E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 1,86E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 1,46E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 7,37E-05 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 2,40E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 3,57E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 3,95E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,10E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 7,98E-06 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 4,21E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 9,63E-02 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 228 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|------------------------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 4,11E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 1,19E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 1,84E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 6,37E+00 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 9,82E-11 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 3,86E-09 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 4,63E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-01 | 0 |

| | |
|----------|--|
| Acronyms | <p>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.</p> <p>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.</p> |
|----------|--|

Use of resources

Table 37: Resource use - LIP 228 Floor Screed

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 5,49E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,97E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 7,47E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 3,43E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 1,06E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 4,49E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 8,76E-02 | 2,34E-03 | 7,86E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-03 | 0 |
| Acronyms | <p>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</p> | | | | | | | | | |

Waste production

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

Table 38: Waste - LIP 228 Floor Screed

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 2,96E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 3,04E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 1,01E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 39: Output flows - LIP 228 Floor Screed

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

Information on biogenic carbon content

Table 40: Biogenic Carbon - LIP 228 Floor Screed

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 230/Bostik 3050 Fine Plus

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 230/Bostik 3050 Fine Plus

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 1,08E+00 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP- fossil | kg CO ₂ eq. | 1,09E+00 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,14E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 6,96E-04 | 1,33E-05 | 3,76E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 8,17E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 4,39E-03 | 1,40E-04 | 9,45E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 2,63E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 8,55E-05 | 1,05E-06 | 5,28E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 7,75E-04 | 3,13E-05 | 1,56E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 8,92E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 2,39E-03 | 1,34E-04 | 3,76E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 4,30E-05 | 7,75E-07 | 1,20E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 1,10E+01 | 7,07E-01 | 3,33E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 3,78E-01 | 2,30E-03 | 1,62E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 230/Bostik 3050 Fine Plus

| Results per declared unit | | | | | | | | | | |
|---------------------------|------------------------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 1,11E+00 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 3,11E-08 | 3,82E-09 | 2,78E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 9,22E-02 | 3,60E-03 | 8,80E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,78E+01 | 5,63E-01 | 2,29E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 4,68E-10 | 1,37E-11 | 6,13E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 1,75E-08 | 6,19E-10 | 2,07E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 6,71E+00 | 8,10E-01 | 8,14E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-01 | 0 |

| | |
|----------|--|
| Acronyms | <p>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.</p> <p>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.</p> |
|----------|--|

Use of resources

Table 43: Resource use - LIP 230/Bostik 3050 Fine Plus

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 1,29E+00 | 8,90E-03 | 6,30E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,92E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,48E+00 | 8,90E-03 | 6,30E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 1,05E+01 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 1,31E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 1,18E+01 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 3,57E-01 | 2,34E-03 | 9,71E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-03 | 0 |
| Acronyms | <p>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</p> | | | | | | | | | |

Waste production

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

Table 44: Waste - LIP 230/Bostik 3050 Fine Plus

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 1,29E-05 | 1,72E-06 | 2,24E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 9,77E-02 | 6,15E-02 | 1,14E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 3,91E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 45: Output flows - LIP 230/Bostik 3050 Fine Plus

| Results per declared unit | | | | | | | | | | |
|-------------------------------|------|-------|----|----------|---|----|----|----|----|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Components for re-use | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Material for recycling | kg | 0 | 0 | 6,40E-04 | 0 | 0 | 0 | 0 | 0 | 0 |
| Materials for energy recovery | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exported energy. electricity | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exported energy. thermal | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Information on biogenic carbon content

Table 46: Biogenic Carbon - LIP 230/Bostik 3050 Fine Plus

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 245

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 245

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 6,00E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 6,13E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,33E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 4,13E-04 | 1,33E-05 | 3,76E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 4,48E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 2,64E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 1,38E-04 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 4,51E-05 | 1,05E-06 | 5,28E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 4,89E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 5,68E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,51E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 2,40E-05 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 6,01E+00 | 7,07E-01 | 3,33E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 2,24E-01 | 2,30E-03 | 1,32E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 245

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 6,22E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 2,10E-08 | 3,82E-09 | 2,77E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 4,43E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 1,06E+01 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 2,69E-10 | 1,37E-11 | 6,06E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 9,11E-09 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 5,71E+00 | 8,10E-01 | 8,13E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-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 49: Resource use - LIP 245

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 8,14E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,92E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1,01E+00 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 5,68E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 7,40E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 6,42E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 2,11E-01 | 2,34E-03 | 8,27E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor Screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 50: Waste - LIP 245

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 7,74E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 5,92E-02 | 6,15E-02 | 1,14E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 2,05E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 51: Output flows - LIP 245

| Results per declared unit | | | | | | | | | | |
|-------------------------------|------|-------|----|----------|---|----|----|----|----|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Components for re-use | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Material for recycling | kg | 0 | 0 | 6,40E-04 | 0 | 0 | 0 | 0 | 0 | 0 |
| Materials for energy recovery | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exported energy, electricity | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exported energy, thermal | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Information on biogenic carbon content

Table 52: Biogenic Carbon - LIP 245

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 250

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 53: Core environmental impact results for the product LIP 250

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 4,50E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 4,64E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,39E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 2,82E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 2,64E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 1,58E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 9,76E-05 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 3,18E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 3,65E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 3,96E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,10E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 9,24E-06 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 4,23E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 9,31E-02 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 54: Additional environmental impact results for the product LIP 250

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 4,70E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 1,24E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 3,21E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 7,13E+00 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 1,32E-10 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 5,84E-09 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 5,22E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-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 55: Resource use - LIP 250

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 5,96E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,94E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 8,72E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 3,94E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 5,67E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 4,50E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 8,57E-02 | 2,34E-03 | 7,86E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor Screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 56: Waste - LIP 250

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 4,01E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 3,72E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 1,51E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 57: Output flows - LIP 250

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

Information on biogenic carbon content

Table 58: Biogenic Carbon - LIP 250

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

LIP 255

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 59: Core environmental impact results for the product LIP 255

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP- total | kg CO ₂ eq. | 4,50E-01 | 4,36E-02 | 1,67E-02 | 0 | 0 | 4,36E-03 | 0 | 3,19E-02 | 0 |
| GWP-fossil | kg CO ₂ eq. | 4,64E-01 | 4,35E-02 | 1,62E-02 | 0 | 0 | 4,35E-03 | 0 | 6,86E-03 | 0 |
| GWP-biogenic | kg CO ₂ eq. | -1,39E-02 | 3,30E-05 | 4,85E-04 | 0 | 0 | 3,30E-06 | 0 | 2,50E-02 | 0 |
| GWP- luluc | kg CO ₂ eq. | 2,82E-04 | 1,33E-05 | 3,75E-05 | 0 | 0 | 1,33E-06 | 0 | 1,65E-06 | 0 |
| ODP | kg CFC 11 eq. | 2,64E-08 | 1,07E-08 | 1,36E-09 | 0 | 0 | 1,07E-09 | 0 | 2,23E-09 | 0 |
| AP | mol H ⁺ eq. | 1,58E-03 | 1,40E-04 | 9,44E-05 | 0 | 0 | 1,40E-05 | 0 | 5,45E-05 | 0 |
| EP-freshwater | kg PO ₄ ³⁻ eq. | 9,76E-05 | 3,22E-06 | 1,62E-05 | 0 | 0 | 3,22E-07 | 0 | 6,02E-07 | 0 |
| | kg P eq. | 3,18E-05 | 1,05E-06 | 5,27E-06 | 0 | 0 | 1,05E-07 | 0 | 1,96E-07 | 0 |
| EP- marine | kg N eq. | 3,65E-04 | 3,13E-05 | 1,55E-05 | 0 | 0 | 3,13E-06 | 0 | 2,64E-05 | 0 |
| EP-terrestrial | mol N eq. | 3,96E-03 | 3,42E-04 | 1,48E-04 | 0 | 0 | 3,42E-05 | 0 | 2,07E-04 | 0 |
| POCP | kg NMVOC eq. | 1,10E-03 | 1,34E-04 | 3,75E-05 | 0 | 0 | 1,34E-05 | 0 | 6,31E-05 | 0 |
| ADP-minerals&metals** | kg Sb eq. | 9,24E-06 | 7,75E-07 | 1,19E-07 | 0 | 0 | 7,75E-08 | 0 | 5,49E-08 | 0 |
| ADP-fossil** | MJ | 4,23E+00 | 7,07E-01 | 3,32E-01 | 0 | 0 | 7,07E-02 | 0 | 1,52E-01 | 0 |
| WDP ** | m ³ | 9,31E-02 | 2,30E-03 | 1,23E-02 | 0 | 0 | 2,30E-04 | 0 | 6,95E-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 60: Additional environmental impact results for the product LIP 255

| Results per declared unit | | | | | | | | | | |
|---------------------------|---|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| GWP-GHG | kg CO ₂ eq. | 4,70E-01 | 4,38E-02 | 1,63E-02 | 0 | 0 | 4,38E-03 | 0 | 2,93E-03 | 0 |
| PM | disease inc. | 1,24E-08 | 3,82E-09 | 2,76E-10 | 0 | 0 | 3,82E-10 | 0 | 1,14E-09 | 0 |
| IRP* | kBq U235 eq | 3,21E-02 | 3,60E-03 | 8,79E-03 | 0 | 0 | 3,60E-04 | 0 | 6,82E-04 | 0 |
| ETP-fw** | CTUe | 7,13E+00 | 5,63E-01 | 2,28E-01 | 0 | 0 | 5,63E-02 | 0 | 1,38E-01 | 0 |
| HTP-c** | CTUh | 1,32E-10 | 1,37E-11 | 6,04E-12 | 0 | 0 | 1,37E-12 | 0 | 5,96E-12 | 0 |
| HTP-nc** | CTUh | 5,84E-09 | 6,19E-10 | 2,05E-10 | 0 | 0 | 6,19E-11 | 0 | 1,31E-10 | 0 |
| SQP** | Dimensionless | 5,22E+00 | 8,10E-01 | 8,12E-02 | 0 | 0 | 8,10E-02 | 0 | 3,13E-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 61: Resource use - LIP 255

| Results per declared unit | | | | | | | | | | |
|---------------------------|--|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 6,77E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PERM | MJ | 1,95E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 8,72E-01 | 8,90E-03 | 6,29E-02 | 0 | 0 | 8,90E-04 | 0 | 1,35E-03 | 0 |
| PENRE | MJ | 3,96E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| PENRM | MJ | 5,43E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 4,50E+00 | 7,51E-01 | 3,49E-01 | 0 | 0 | 7,51E-02 | 0 | 1,62E-01 | 0 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 8,57E-02 | 2,34E-03 | 7,86E-03 | 0 | 0 | 2,34E-04 | 0 | 7,11E-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 Floor Screeds are non-hazardous building waste. The waste from packing material are also assumed to be non-hazardous waste.

Table 62: Waste - LIP 255

| Results per declared unit | | | | | | | | | | |
|------------------------------|------|----------|----------|----------|---|----|----------|----|----------|---|
| Indicator | Unit | A1-A3 | A4 | A5 | B | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 4,01E-06 | 1,72E-06 | 2,23E-07 | 0 | 0 | 1,72E-07 | 0 | 2,31E-07 | 0 |
| Non-hazardous waste disposed | kg | 3,72E-02 | 6,15E-02 | 1,13E-03 | 0 | 0 | 6,15E-03 | 0 | 1,00E+00 | 0 |
| Radioactive waste disposed | kg | 1,51E-05 | 4,83E-06 | 2,36E-06 | 0 | 0 | 4,83E-07 | 0 | 9,91E-07 | 0 |

Output flows

Table 63: Output flows - LIP 255

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

Information on biogenic carbon content

Table 64: Biogenic Carbon - LIP 255

| | Unit | Quantity |
|---|------|----------|
| Biogenic carbon content in product | kg C | <5% |
| Biogenic carbon content in packaging | kg C | 49% |
| Results per functional or declared unit. Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂ . | | |

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 919 MWh per year.



Information related to Sector EPD

This is an individual EPD.

Differences versus previous versions

This is the first version of the EPD.

References

Project Report - LIP Floor Screeds, LIP Bygningsartikler A/S, 2021

General Programme Instruction of the International EPD® System. Version 4.01.

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

EN 12004:2007+A1:2012 for interior and exterior bonding of ceramic tiles, porcelain, natural stone and mosaics on floors and walls.

EN 13813:2003 (Screed material and floor screeds – screed material – properties and requirements).

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.

| | |
|---------------------------------|---|
| 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> |
| EPD registration number: | S-P-04247 |
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| Valid until: | 2026-10-28 |

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 www.environdec.com/contact.

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

☐ EPD process certification ☒ EPD verification

Third party verifier: Camilla Landén, 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:

☐ Yes ☒ 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 experience with the indicator.

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- when building on quality!

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