

Environmental Product Declaration



THE INTERNATIONAL EPD® SYSTEM



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Icopal MonoPolar

This is an EPD of multiple products, based on a representative product.

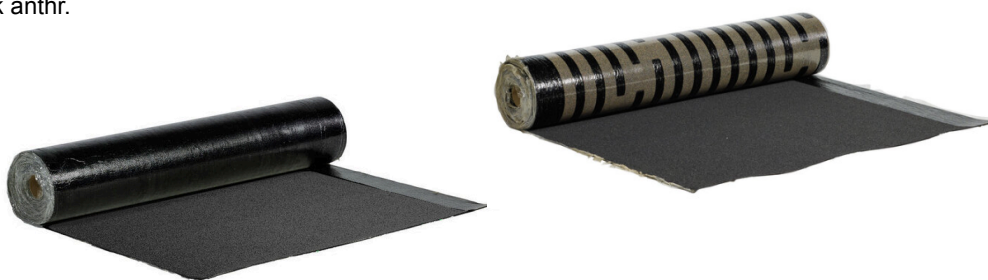
The following products are included:

MonoPolar-T 7x1m Torch coal grey (the representative product)

MonoPolar-R 7x1m Stripe torch coal grey

MonoPolar-R 7x1m Stripe torch BlackAnth.

MonoPolar-T 7x1m Torch Black anthr.



From

BMI Finland



Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

EPD-IES-0020142

2025-03-18

2030-03-17

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

Programme information

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

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|--|
| Accountabilities for PCR, LCA and independent, third-party verification |
| Product Category Rules (PCR) |
| Core Product Category Rules (PCR): EN15804+A2 |
| Product level PCR standard: PCR 2019:14 Construction products (1.3.4), c-PCR-032 Flexible sheets waterproofing |
| Programme operator horizontal PCR: PCR 2019:14 Construction products (EN 15804+A2) (1.3.4) |
| PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact |
| Life Cycle Assessment (LCA) |
| LCA accountability: Lars Åhsberg, BMI Group, Sweden |
| LCA/EPD Tool: R<THINK by Nibe, The Netherlands |
| Third-party verification |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by individual verifier |
| Third-party verifier: Vladimír Kočí Approved by: The International EPD® System |
| Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:

BMI Finland

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FI-01620 Vantaa
Finland

myyntipalvelu@bmigroup.com
<https://www.bmigroup.com/fi/>

Contact

Lars Åhsberg, Nordic Environmental Manager, BMI Group
+46 (0)70 604 50 46, lars.ahsberg@bmigroup.com

Description of the organisation:

BMI Finland Oy with 80 years of experience is one of the leading suppliers of roofing and waterproofing solutions in Finland. The company offers a wide range of roofing and waterproofing products, including Icopal bitumen membranes and Ormax tile roofs. Additionally, BMI Finland includes waterproofing professional Icopal Roof Ltd, which complements the company's services in roofing contracts and maintenance. BMI Finland's headquarters is located in Vantaa and the bitumen membrane factory is located in Espoo. BMI Finland employs approximately 300 people.

BMI Finland is part of the BMI Group, which is Europe's largest roofing manufacturer. BMI Group has united some of the most trusted local brands in the industry to become Europe's largest supplier of pitched and flat roofing solutions, offering customers over 280 years of experience and innovation. BMI Group, headquartered in the United Kingdom and belonging to Standard Industries, benefits from the global support, reach, and resources of the parent company. With over 120 production sites across Europe, Africa, and Asia and over 9,600 employees worldwide, BMI Group is well positioned to provide unparalleled service to homeowners, designers, contractors, property owners, and developers. from us.

Product-related or management system-related certifications:

BMI Finland's operations are certified in accordance with ISO 9001:2015.

Name and location of production site:

The declared products are produced at BMI Finland Oy, production site in Espoo, Finland.
Address: Läntinen Teollisuuskatu 10, FI-2920 Espoo, Finland

For more information regarding the product or the organisation, see EPD owner's website:
<https://www.bmigroup.com/fi/>

Product information

Product name: Icopal MonoPolar

Product description and identification:

The declared product is a single-layer, high-quality roof waterproofing system based on SBS modified bitumen, but it can also be used as the top layer in a 2-layer solution. It fits several types of roof structures and is applicable for new roofing as well as reroofing of existing roofs.

Icopal MonoPolar is adapted to Nordic conditions, well tested and has an expected service lifetime of up to 50 years. Single layer waterproofing systems are defined in the product standard EN 13707 Flexible sheets for waterproofing. The Approved systems meet fire requirements on separately specified structures according to BROOF (t2).

The representative product is applied by fully torching. Two of the included products in this EPD are applied by stripe torching. The striped back ensures correct pressure equalization which minimizes any vapor bulges.

Multiple products and the representative product

This EPD applies to four varieties of products, all similar in terms of content and field of use. Additionally, they are all produced in the same BMI manufacturing site in Espoo, Finland.

The results in this EPD are declared for **MonoPolar-T 7x1m Torch coal grey** as the representative product. The selection of the representative product is based on the fact that it had the largest sales volume (44%) of the total sales of the included products during 2023-2024.

The deviation of the declared GWP-GHG results (per m² installed membrane) for the included products for modules A1-A3 is less than 9.9 % compared to the representative product.

Table. Included products, technical data and deviations in GWP-GHG (A1-A3)

| Product - local name | Material nr. | Thickness (mm) | Weight * (kg/m ²) | Deviation in GWP-GHG / m ² (%) |
|--|--------------|----------------|-------------------------------|---|
| MonoPolar-T 7x1m Torch coal grey | 10008043 | 4.3 | 6.2 | representative product |
| MonoPolar-R 7x1m Stripe torch coal grey | 10008042 | 4.3 | 5.6 | +9.9 |
| MonoPolar-R 7x1m Stripe torch BlackAnth. | 10008045 | 4.3 | 5.6 | +6.7 |
| MonoPolar-T 7x1m Torch Black anthr. | 10008046 | 4.3 | 6.2 | -3.1 |

**including overlap 12%*

Manufacturing process

The manufacturing takes place at BMI Finland's production site in Espoo, Finland.

The bitumen blend is mixed and stored in big holding tanks before being pumped to the production line. The PET-reinforcement is running through the production line and is applied with different layers of bitumen blends, sand or slates. At last, polypropylene foil is applied on the backside of the weldable products. The finished product is rolled, packed on pallets and supported with additional packaging before being sent to customers.

The manufacturing process includes the energy and fuel consumption and emissions on site, production of all packaging materials and treatment of waste generated in the manufacturing process.

UN CPC code:

5453 Roofing and waterproofing services

Geographical scope:

All inventories are modelled with respect to their specific origin when applicable. All life cycle stages are modelled per Finland.

LCA information

Declared unit:

1 m² installed bitumen membrane for roof waterproofing, including 12% overlap, produced by BMI Espoo, from cradle-to-grave and D for a study period of 50 years for the building.

The weight per 1 m² installed membrane (including 12% overlap) is 6.2 kg and the conversion factor to 1 kg is 0.161 m².

Expected life time:

50 years.

Time representativeness and data quality:

The specific data collected regarding manufacturing, packaging, suppliers and transports refer to the production year 2022. The data collection was performed by the EPD owner. Background data is based on EPD's and Ecoinvent 3.10. Foreground data is <2 years and background data <10 years.

The quality of the used data for the EPD has been assessed per item in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, E2. The overall data quality has been assessed by creating a weighted average on the basis of individual quality levels and the GWP-total for modules A1-C4.

Overall data quality:

| | |
|----------------------------------|-----------|
| Geographical representativeness: | Good |
| Technical representativeness: | Good |
| Time representativeness: | Very Good |

Database(s) and LCA software used:

LCA method R<THiNK: EN15804+A2:2019
 LCA software: Simapro 9.1.1 (aligned with EF 3.1)
 Characterization method: EN 15804 +A2 Method v1.0
 LCA database profiles: EcoInvent version 3.10

Description of system boundaries:

The system boundary of the EPD adheres to the modular approach outlined in EN 15804:2012+A2:2019. This EPD shows cradle-to-grave and module D with activities needed for a study period of 50 years for the building. No capital goods or infrastructure are included within the system boundaries.

Allocation used:

| Environmental profile / dataset used | Explanation of used allocation method |
|--|---|
| Bitumen production final LCI - EUROBITUME 2021 System, with infrastructures [Eurobitume] | The allocation between bitumen and other co-products made from crude oil is based on mass balances at the crude oil extraction and the transport stages. At the refining level, the allocation is based on relative economic values. Source = Eurobitume. |

Cut-off Criteria:

Product stage (A1-A3):

The production stage consists of the extraction of all raw materials, transportation of the raw materials, processing the raw materials into materials and the production of the product. The required energy for production, external treatments, ancillary materials, packaging material and production emissions are included. The total neglected input flows for A1-A3 do not exceed the limit of 5% of energy use and mass.

Construction process stage (A4-A5)

This stage consists of the transport of the product from the production plant to the construction site. It also includes installation waste. The additional needed production, transport and end-of-life of the installation waste is included. The end-of-life of packaging material up to the end-of-waste state or disposal of final residues is also included. The installation of the product including manufacture, transportation and end-of-life of ancillary materials and any energy or water use required for installation or operation of the construction site are taken into account. The total neglected input flows for A4-A5 do not exceed the limit of 5% of energy use and mass. The included scenarios, according to the LCA Report, are currently in use and represent the most likely alternatives.

Use stage (B1-B7)

There are no environmental impacts caused by the product during its use stage. There are no emissions (B1) and no consumption of raw materials. There is no need for maintenance (B2), repair (B3), replacements (B4) or refurbishments (B5) during the use of the product in standard conditions. The product does not consume energy (B6) or water (B7) during its operational life. The included scenarios, according to the LCA Report, are currently in use and are representative for the most probable alternatives.

End of life stage (C1-C4)

When the end of the life stage of the building is reached, the de-construction/demolition begins. This EPD includes de-construction/demolition (C1), the necessary transport (C2) from the demolition site to the sorting location and distance to final disposal. The end of life stage includes the final disposal to landfill 40% (C4), incineration 45% (C3) and recycling 15%. Loads and benefits of recycling, re-use and exported energy are part of module D. The total neglected input flows for C1-C4 do not exceed the limit of 5% of energy use and mass. The included scenarios, according to the LCA Report, are currently in use and are representative for the most probable alternatives. For modelling of the End-of-life stage of the product the scenarios as used in the sector EPD of EWA (European Water Proofing Association) “Flexible Bitumen Sheets For Roof Waterproofing– sector EPD (S-P-00414)” are applied.

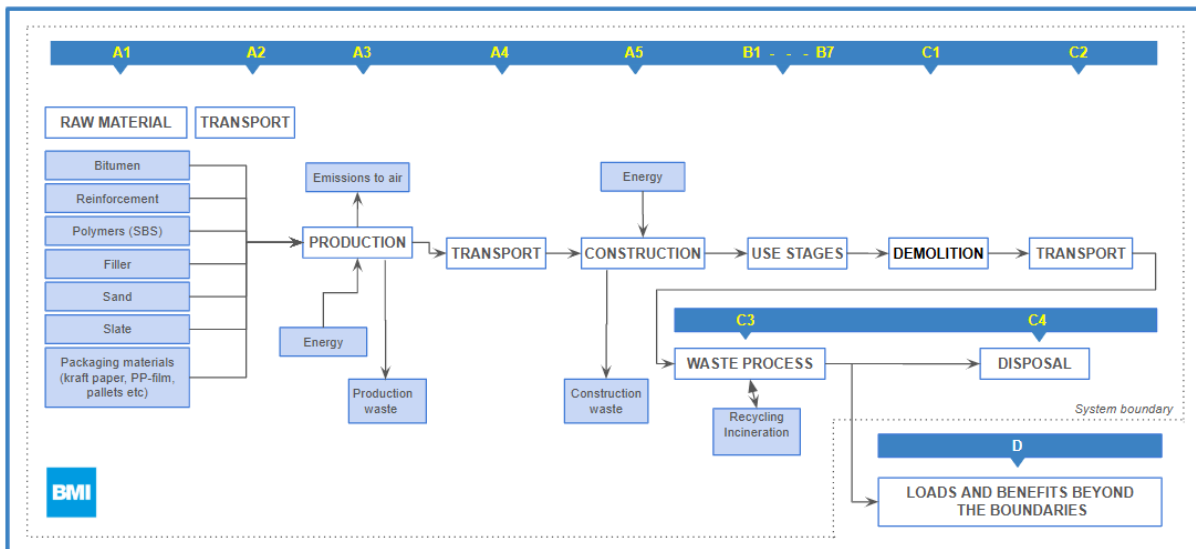
Benefits and loads beyond the system boundary (D)

This stage contains the potential loads and benefits of recycling and re-use of raw materials/products. The loads contain the needed recycling processes from end-of-waste-point up to the point-of-equivalence of the substituted primary raw material and a load for secondary material that will be lost at the end-of-life stage. The loads and benefits of recycling and reuse are included in this module.

Additional information:

For further information regarding the underlying LCA, contact LCA practitioner Lars Åhsberg: lars.ahsberg@bmgigroup.com.

System diagram:





Modules declared, geographical scope, share of specific data (in GWP-GHG results) and datavariation:

| | Product stage | | | Construction stage | | Use stage | | | | | | | End of life stage | | | | Benefits and loads beyond the stage system boundaries |
|----------------------|---------------------|-----------|---------------|--------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|---|
| | Raw material supply | Transport | Manufacturing | Transport to site | Assembly | Use | Maintenance | Repair | Replacement | Refurnishment | Operational energy use | Operational water use | Deconstruction | Transport | Waste processing | Disposal | Reuse-, recovery-, recycling- potential |
| Modules | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Modules declared | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Geography | FIN | | | FIN | | FIN | | | | | | | FIN | | | | FIN |
| Specific data used | <53% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation - products | <3% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation - sites | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

* X=Modules Assessed, ** The share of primary (specific) data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that do not capture all relevant aspects of data quality. The

Content information

Raw material and packaging materials (included products)

| Product components | Weight -% | Post-consumer material, weight-% | Biogenic material, weight-% |
|---------------------|------------|----------------------------------|---------------------------------|
| Bitumen blend | 66-69 | 1 | 0 |
| Reinforcement | 4 | <1 | 0 |
| Sand | 7-8 | 0 | 0 |
| Slates | 19-21 | 0 | 0 |
| Packaging materials | Weight, kg | Weight-% (versus the product) | Weight biogenic carbon, kg C/kg |
| Kraft paper | <0.01 | <0.1 | 0.45 |
| Plastic (PE) | <0.01 | <0.1 | 0 |
| Wood pallet | 0.11 | <2 | 0.5 |

Origin of electricity

The used electricity in the manufacturing phase (A3) has the following origin: Fossil 70%, Renewables 12% and Nuclear 18%. The GWP-GHG emission factor is 652 g CO₂/kWh (Finish Residual mix low voltage from EI 3.10).

Dangerous substances from the candidate list of SVHC for Authorisation

For construction product EPDs complaint with EN15804, the content declaration shall list substances contained in the products that are listed in the “Candidate List of Substances of Very High Concern for Authorization” when their content exceeds the limits for registration with the European Chemicals Agency: i.e. >0.1 % of the weight of the product. No such substances are used in the production of the products covered in this EPD.



THE INTERNATIONAL EPD® SYSTEM

Results* of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

| Results per functional or declared unit | | | | | | | | | | | | | | | | |
|---|--|-----------------|-----------------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|-----------------|-----------------|------------------|
| Indicator | Unit | A1-A3 ** | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| GWP-total | kg CO2 eq. | 2,78E+00 | 1,59E-01 | 8,87E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,51E-01 | 5,86E+00 | 2,42E-01 | -1,02E+00 |
| GWP-fossil | kg CO2 eq. | 3,26E+00 | 1,59E-01 | 7,23E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,51E-01 | 5,86E+00 | 2,42E-01 | -1,01E+00 |
| GWP-biogenic | kg CO2 eq. | -1,65E-01 | 6,61E-05 | 1,65E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,94E-05 | 2,80E-04 | 4,11E-05 | -8,95E-04 |
| GWP-luluc | kg CO2 eq. | 3,12E-01 | 4,85E-05 | 1,62E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,88E-05 | 2,11E-04 | 1,39E-05 | -9,3405E-03 |
| ODP | kg CFC-11 eq. | 1,41E-07 | 3,92E-08 | 1,29E-07 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,22E-09 | 7,87E-09 | 1,04E-09 | -4,78E-08 |
| AP | mol H+ eq. | 1,57E-02 | 5,12E-04 | 2,04E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,89E-04 | 2,63E-03 | 3,16E-04 | -3,04E-04 |
| EP-freshwater | kg P eq. | 2,83E-04 | 1,27E-06 | 4,37E-06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,15E-06 | 7,46E-06 | 3,08E-07 | 2,79E-06 |
| EP-marine | kg N eq. | 5,53E-03 | 1,12E-04 | 5,23E-04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,66E-04 | 7,37E-04 | 2,05E-04 | -2,93E-04 |
| EP-terrestrial | mol N eq. | 4,43E-02 | 1,25E-03 | 5,66E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,83E-03 | 7,83E-03 | 7,46E-04 | -3,35E-03 |
| POCP | kg NMVOC eq. | 1,60E-02 | 4,92E-04 | 1,96E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,53E-04 | 2,40E-03 | 3,23E-04 | -2,28E-03 |
| ADP-mm** | kg Sb eq. | 1,71E-05 | 3,23E-06 | 2,84E-06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 6,74E-07 | 1,77E-06 | 5,96E-08 |
| ADP-fossil** | MJ, net calorific value | 1,64E+02 | 2,59E+00 | 9,34E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,12E+00 | 4,09E+00 | 5,70E-01 | -4,06E+01 |
| WDP* | m3 world eq. deprived | 1,10E+00 | 8,40E-03 | 2,08E-02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,16E-03 | 1,05E-01 | -1,83E-01 | -4,03E-02 |
| 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-mm = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption | | | | | | | | | | | | | | | |



** The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. ** The use of the results of modules A1-A3 is discouraged without considering the results of module C. *** The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Additional mandatory and voluntary impact category indicators

| Results per functional or declared unit | | | | | | | | | | | | | | | | |
|---|------------------------|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----------|----------|-----------|
| Indicator | Unit | A1-A3 ** | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| GWP-GHG* | kg CO ₂ eq. | 2,78E+00 | 1,59E-01 | 8,87E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,51E-01 | 5,86E+00 | 2,42E-01 | -1,02E+00 |
| Particulate matter emissions (PM) | Disease incidence | 1,65E-07 | 1,40E-08 | 2,31E-08 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,07E-08 | 2,56E-08 | 4,05E-09 | -3,21E-09 |
| Ionizing radiation, human health (IRP) | kBq U235 eq. | 8,96E-01 | 1,13E-02 | 3,93E-02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,45E-03 | 6,07E-03 | 3,73E-04 | -5,14E-01 |
| Eco-toxicity - freshwater (ETP-fw) | CTUe | 1,21E+01 | 2,06E+00 | 5,50E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,06E-01 | 3,87E+00 | 1,24E-01 | 3,85E+00 |
| Human toxicity, cancer effect (HTP-c) | CTUh | 1,37E-08 | 5,00E-11 | 3,35E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,86E-10 | 3,83E-09 | 1,26E-10 | -2,92E-09 |
| Human toxicity, non-cancer effects (HTP-nc) | CTUh | 2,14E-08 | 2,25E-09 | 6,70E-09 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,30E-09 | 8,57E-09 | 3,99E-10 | 9,75E-10 |
| Land use related impacts/Soil quality (SQP) | dimensionless | 4,41E+01 | 2,96E+00 | 1,43E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,17E+00 | 2,78E+00 | 1,30E+00 | -7,19E+00 |

** This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero. ** The use of the results of modules A1-A3 is discouraged without considering the results of module C*



Resource use indicators

| Results per functional or declared unit | | | | | | | | | | | | | | | | |
|---|--|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----------|-----------|-----------|
| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 3,57E+00 | 3,26E-02 | 7,49E-02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,89E-02 | 2,34E-01 | 9,47E-03 | -7,74E+00 |
| PERM | MJ | 1,58E+00 | 0 | 7,88E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 5,15E+00 | 3,26E-02 | 8,27E-02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,89E-02 | 2,34E-01 | 9,47E-03 | -7,74E+00 |
| PENRE | MJ | 4,90E+01 | 2,75E+00 | 9,30E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,13E+00 | 4,10E+00 | 5,72E-01 | -2,64E+01 |
| PENRM | MJ | 1,17E+02 | 0 | 5,82E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1,35E+01 |
| PENRT | MJ | 1,66E+02 | 2,75E+00 | 9,89E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,13E+00 | 4,10E+00 | 5,72E-01 | -3,98E+01 |
| SM | kg | 2,01E-01 | 0 | 1,01E-03 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m ³ | 2,90E-02 | 2,95E-04 | 6,91E-04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,95E-04 | 4,67E-03 | -4,24E-03 | -1,20E-02 |
| 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 indicators

| Results per functional or declared unit | | | | | | | | | | | | | | | | |
|---|------|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----------|----------|-----------|
| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 3,22E-04 | 6,28E-06 | 1,93E-05 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,38E-05 | 6,15E-05 | 3,72E-06 | -1,09E-04 |
| Non-hazardous waste disposed | kg | 7,23E-01 | 2,25E-01 | 1,24E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9,13E-02 | 2,98E+00 | 2,48E+00 | -1,85E-02 |
| Radioactive waste disposed | kg | 1,36E-03 | 1,77E-05 | 6,28E-05 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,36E-06 | 4,95E-06 | 3,47E-07 | -3,64E-04 |

Output flow indicators

| Results per functional or declared unit | | | | | | | | | | | | | | | | |
|---|------|----------|----|----------|----|----|----|----|----|----|----|----|----|----------|----|-----------|
| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Components for re-use | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Material for recycling | kg | 2,62E-02 | 0 | 5,61E-02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9,27E-01 | 0 | 0 |
| Materials for energy recovery | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exported energy, electricity | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1,61E+01 |
| Exported energy, thermal | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -9,34E+00 |

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