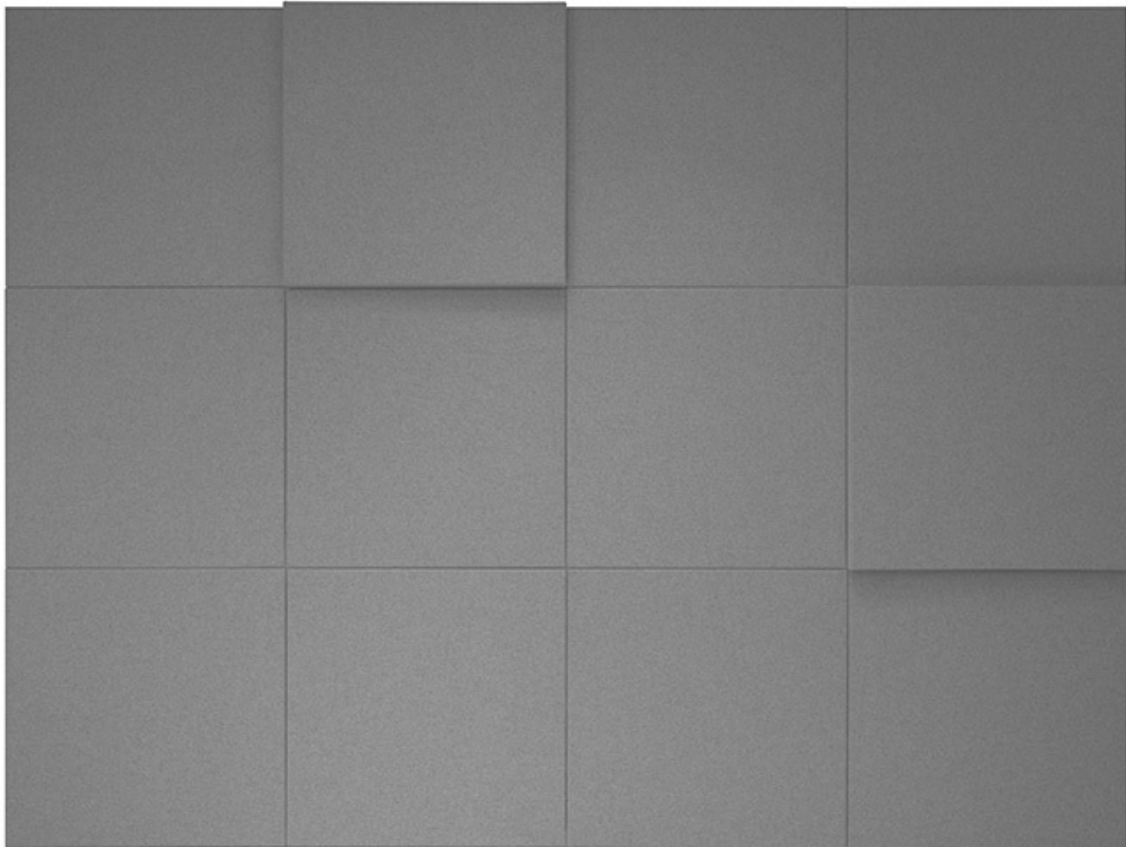


Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Soneo Wall Panel 1000x1000x30



abstracta

The Norwegian EPD Foundation

Owner of the declaration:

Abstracta AB

Product:

Soneo Wall Panel 1000x1000x30

Declared unit:

1 pcs

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 026:2022 Part B for Furniture

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-5136-4471-EN

Registration number:

NEPD-5136-4471-EN

Issue date: 10.10.2023

Valid to: 10.10.2028

EPD Software:

LCA.no EPD generator ID: 72564

General information

Product

Soneo Wall Panel 1000x1000x30

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway
The Norwegian EPD Foundation
Phone: +47 23 08 80 00
web: post@epd-norge.no

Declaration number: NEPD-5136-4471-EN

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 026:2022 Part B for Furniture

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Declared unit:

1 pcs Soneo Wall Panel 1000x1000x30

Declared unit (cradle to gate) with option:

A1-A3,A4,A5,B2,B3,B4,C1,C2,C3,C4,D

Functional unit:

The product hangs on the wall until its end-of-life, when it can be dismantled and recycled or returned to Abstracta for reuse or recycling.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Norway's guidelines for verification and approval requiring that tools are i integrated into the company's environmental management system, ii the procedures for use of the EPD tool are approved by EPD-Norway, and iii the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Owner of the declaration:

Abstracta AB
Contact person: Tim Wisme
Phone:
e-mail: tim.wisme@abstracta.se

Manufacturer:

Abstracta AB

Place of production:

Abstracta AB
Lammengatan 2
363 45 Lammhult, Sweden

Management system:

ISO 9001, 14001 och 45001

Organisation no:

556046-3852

Issue date: 10.10.2023

Valid to: 10.10.2028

Year of study:

2022

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway.

Developer of EPD: Tim Wisme

Reviewer of company-specific input data and EPD: Erik Graesen

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

The square is the most elementary of geometric shapes. Yet despite its simplicity, its dynamic potential is limitless. Soneo Wall, a versatile system of sound-absorbent square panels, makes this particularly apparent. The panels can be freely arranged into different patterns and upholstered in a multitude of fabrics and colours. They are also available in different thicknesses, which can be combined to create even more dynamic patterns. Find more information at the product page: <https://abstracta.se/product/soneo-wall-stylish-sound-absorber/>.

Product specification

Soneo Wall is a versatile system of wall panels which offers freedom and the possibility to create personalized and sustainable soundscapes that satisfy your acoustic and visual needs. The key feature of this product is the combination of absorption together with diffusion.

See the product sheet <https://abstracta.se/app/uploads/2018/01/product-sheet-soneo1.pdf> for more information or contact us for more information.

| Materials | kg | % | Recycled share in material (kg) | Recycled share in material (%) |
|------------------------------|------|-------|---------------------------------|--------------------------------|
| Insulation - stone wool | 3,69 | 50,49 | 0,60 | 16,15 |
| Tape | 0,01 | 0,10 | 0,00 | 1,07 |
| Glue for wood | 0,03 | 0,45 | 0,00 | 0,00 |
| Metal - Aluminium | 0,09 | 1,18 | 0,00 | 0,00 |
| Powder coating | 0,00 | 0,05 | 0,00 | 0,00 |
| Textile - Wool | 0,99 | 13,53 | 0,00 | 0,00 |
| Plastic - Polyurethane (PUR) | 0,06 | 0,86 | 0,00 | 0,00 |
| Wood | 2,44 | 33,35 | 0,00 | 0,00 |
| Total | 7,32 | | 0,60 | |

| Packaging | kg | % | Recycled share in material (kg) | Recycled share in material (%) |
|-----------------------|------|-------|---------------------------------|--------------------------------|
| Packaging - Cardboard | 0,18 | 25,07 | 0,00 | 0,00 |
| Recycled cardboard | 0,55 | 74,93 | 0,55 | 100,00 |
| Total incl. packaging | 8,05 | | 1,14 | |

Technical data:

The dimensions of Soneo Wall Panel are 1000x1000x30, but other sizes are also available. This EPD is made for Soneo Wall, including aluminium fittings for hanging the product on the wall. For more information on the technical data of Soneo Wall Panel, see the technical data sheet: <https://lammhults.sharepoint.com/:b:/s/abs-webpage/EXXNsEcxFKJBokRdoMP0lbwBiGH9y0n-hrjDIlzqjAcFg?e=MIUeVv>

Market:

Available worldwide.

Reference service life, product

10 years

Reference service life, building

60 years

LCA: Calculation rules

Declared unit:

1 pcs Soneo Wall Panel 1000x1000x30

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

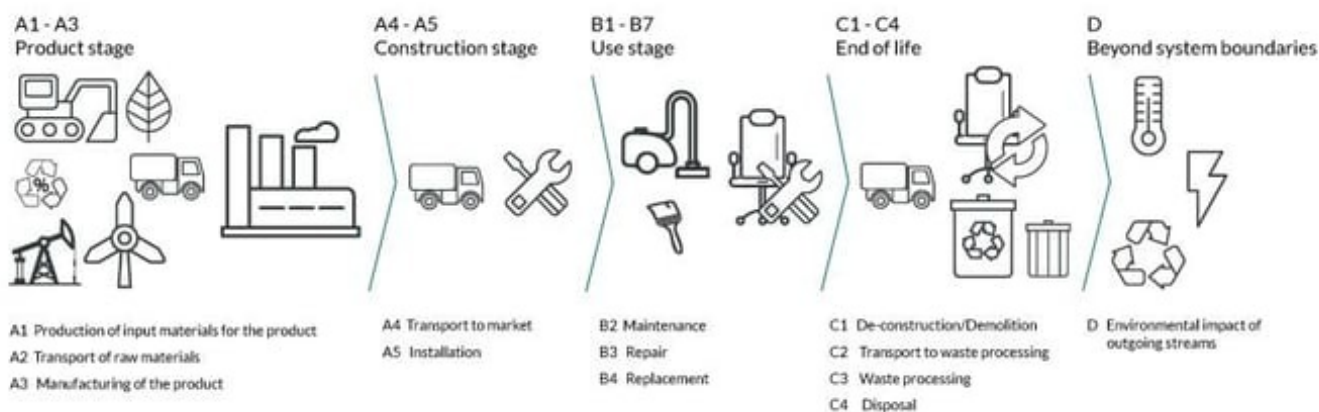
| Materials | Source | Data quality | Year |
|------------------------------|------------------------|--------------|------|
| Glue for wood | ecoinvent 3.6 | Database | 2019 |
| Metal - Aluminium | ecoinvent 3.6 | database | 2019 |
| Plastic - Polyurethane (PUR) | ecoinvent 3.6 | Database | 2019 |
| Powder coating | Ecoinvent 3.6 | Database | 2019 |
| Tape | ecoinvent 3.6 | Database | 2019 |
| Wood | ecoinvent 3.6 | Database | 2019 |
| Packaging - Cardboard | Modified ecoinvent 3.6 | Database | 2019 |
| Recycled cardboard | Modified ecoinvent 3.6 | Database | 2019 |
| Textile - Wool | Modified ecoinvent 3.6 | Database | 2019 |
| Insulation - stone wool | NEPD-4117-3336-EN | EPD | 2021 |

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

| Product stage | | | Construction installation stage | | Use stage | | | | | | End of life stage | | | | Beyond the system boundaries | |
|---------------|-----------|---------------|---------------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|------------------------------|------------------------------------|
| Raw materials | Transport | Manufacturing | Transport | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| X | X | X | X | X | MND | X | X | X | MND | MND | MND | X | X | X | X | X |

System boundary:

The LCA is a cradle-to-cradle analysis, A1-D, where some B-stages (use phase) that were assumed to be neglectable are not included. The A1-A4 stages includes the extraction and production of raw materials, transportation to the production site, the production process itself and an estimated transport distance to the market. A5 includes the generated waste from the packaging of the product after assembly at the customer. The only B stage that is assumed to be relevant is B2, which includes assumptions on how the customer takes care of the product according to Abstracta's care instructions. The C and D stages includes the use of materials and energy for deconstruction, the transport to waste management, the waste processes, disposal of materials that cannot be processed, and the potential of reuse, recovery, and recycling of the product.



Additional technical information:

To preserve the fabric colour and the appearance of the fabric, Soneo should be vacuumed regularly with a soft nozzle.

Polyester Stain Removal: Use uncoloured paper towel or cloth to soak up as much as possible of the stain. Dried stains should be vacuumed. Moisten the stain lightly with a clean white cotton cloth, lukewarm water and possibly a small amount of pH-neutral detergent. Press a dry cloth or uncoloured paper towel against the fabric so that moisture and dirt are absorbed. Repeat moistening and soaking until the stain is gone. Use clean water without detergent at the last moistening. Finish with soaking.

Wool Stain Removal: Dab or wipe gently with a moist cloth.

Abstracta offers a take-back scheme for used products that our customers want to recycle. We can then reuse the components in the best, possible way. In this way, we can save some of the world's resources by reusing or refurbishing some products to avoid throwing away fully functional material or products. In cases where this is not possible, we instead recycle the materials. Read more about this here <https://abstracta.se/story/abstracta-is-introducing-a-new-recycling-service-for-used-products-abstracta/>. Otherwise, try to ensure that the product can be reused when possible, or else, dismantle it so that as much of the materials can be recycled as possible.

LCA: Scenarios and additional technical information














The following information describe the scenarios in the different modules of the EPD.














Some assumptions have been made regarding the products lifetime after leaving the factory gates. The product is assumed to be transported to a customer in Scandinavia, the UK or France (about 85% of sales in 2022). An average distance to the customer has been calculated through this data. In the construction phase (A5), the packaging of the product becomes waste, and the impacts were added automatically according to assumptions made in the EPD tool on waste handling by the customer or installer of the product. In the use stage the assumption is that the customer takes care of the product by vacuuming it on a yearly basis. For the end-of-life stage of the product, it has been assumed that there is 50 km from the customer to the waste terminal. The rest of the values for this stage are automatically filled in by the tool, according to other assumptions of disposal and waste processes. For the D-stage, where negative impacts from recycling and heat generation from waste incineration are added, automatic values are filled in, according to generic data.

| Transport from production place to user (A4) | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit | Value (Liter/tonne) |
|--|---------------------------------------|---------------|-------------------------|-------|---------------------|
| Ship, Ferry, Sea (km) | 50,0 % | 7 | 0,034 | l/tkm | 0,24 |
| Truck, 16-32 tonnes, EURO 6 (km) | 36,7 % | 511 | 0,043 | l/tkm | 21,96 |
| Assembly (A5) | | Unit | Value | | |
| Waste, packaging, cardboard, 100 % recycled, to average treatment (kg) | kg | 0,55 | | | |
| Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg) | kg | 0,18 | | | |
| Maintenance (B2) | | Unit | Value | | |
| Electricity, Sweden (kWh) | kWh/DU | 0,10 | | | |
| Transport to waste processing (C2) | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit | Value (Liter/tonne) |
| Truck, 16-32 tonnes, EURO 6 (km) | 36,7 % | 50 | 0,043 | l/tkm | 2,15 |
| Waste processing (C3) | | Unit | Value | | |
| Waste treatment per kg Hazardous waste, incineration (kg) | kg | 0,03 | | | |
| Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg) | kg | 0,00 | | | |
| Waste treatment per kg Paperboard, incineration with fly ash extraction - C3 (kg) | kg | 0,01 | | | |
| Waste treatment per kg Polyurethane (PU), incineration (kg) | kg | 0,06 | | | |
| Waste treatment per kg Scrap aluminium, incineration with fly ash extraction (kg) | kg | 0,09 | | | |
| Waste treatment per kg Textile, incineration with fly ash extraction (kg) | kg | 0,99 | | | |
| Waste treatment per kg Wood, incineration with fly ash extraction (kg) | kg | 2,44 | | | |
| Waste, materials to recycling (kg) | kg | 0,01 | | | |
| Disposal (C4) | | Unit | Value | | |
| Landfilling of ashes and residues from incineration of Scrap aluminium (kg) | kg | 0,08 | | | |
| Landfilling of ashes from incineration of Hazardous waste, from incineration (kg) | kg | 0,01 | | | |
| Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg) | kg | 0,00 | | | |
| Landfilling of ashes from incineration of Paperboard, process per kg ashes and residues - C4 (kg) | kg | 0,00 | | | |
| Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) | kg | 0,00 | | | |
| Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg) | kg | 0,05 | | | |
| Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg) | kg | 0,03 | | | |
| Waste, Stone wool, to landfill (kg) | kg | 3,69 | | | |
| Benefits and loads beyond the system boundaries (D) | | Unit | Value | | |
| Substitution of electricity, in Norway (MJ) | MJ | 2,69 | | | |
| Substitution of primary aluminium with net scrap (kg) | kg | 0,01 | | | |
| Substitution of thermal energy, district heating, in Norway (MJ) | MJ | 40,71 | | | |

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

| Environmental impact | | | | | | | |
|--|------------------------|----------|----------|----------|----------|----|--|
| Indicator | Unit | A1-A3 | A4 | A5 | B2 | B3 | |
|  GWP-total | kg CO ₂ -eq | 8,83E+01 | 6,78E-01 | 1,25E+00 | 5,49E-03 | 0 | |
|  GWP-fossil | kg CO ₂ -eq | 6,21E+01 | 6,78E-01 | 1,18E-02 | 5,06E-03 | 0 | |
|  GWP-biogenic | kg CO ₂ -eq | 2,17E+01 | 2,79E-04 | 1,24E+00 | 1,03E-04 | 0 | |
|  GWP-luluc | kg CO ₂ -eq | 4,51E+00 | 2,43E-04 | 3,91E-06 | 3,29E-04 | 0 | |
|  ODP | kg CFC11 -eq | 1,75E-06 | 1,53E-07 | 2,49E-09 | 2,48E-09 | 0 | |
|  AP | mol H+ -eq | 1,46E+00 | 2,14E-03 | 5,59E-05 | 3,30E-05 | 0 | |
|  EP-FreshWater | kg P -eq | 1,13E-02 | 5,39E-06 | 9,70E-08 | 3,42E-07 | 0 | |
|  EP-Marine | kg N -eq | 2,33E-01 | 4,34E-04 | 1,85E-05 | 5,61E-06 | 0 | |
|  EP-Terrestrial | mol N -eq | 5,97E+00 | 4,85E-03 | 2,00E-04 | 7,39E-05 | 0 | |
|  POCP | kg NMVOC -eq | 1,79E-01 | 1,79E-03 | 5,76E-05 | 1,68E-05 | 0 | |
|  ADP-minerals&metals ¹ | kg Sb -eq | 4,30E-04 | 1,86E-05 | 2,87E-07 | 2,03E-07 | 0 | |
|  ADP-fossil ¹ | MJ | 6,14E+02 | 1,02E+01 | 1,65E-01 | 5,93E-01 | 0 | |
|  WDP ¹ | m ³ | 2,95E+03 | 9,83E+00 | 2,09E-01 | 6,02E+01 | 0 | |

| Indicator | Unit | B4 | C1 | C2 | C3 | C4 | D |
|--|------------------------|----|----|----------|----------|----------|-----------|
|  GWP-total | kg CO ₂ -eq | 0 | 0 | 6,58E-02 | 5,81E+00 | 2,46E-02 | -3,26E-01 |
|  GWP-fossil | kg CO ₂ -eq | 0 | 0 | 6,57E-02 | 2,95E-01 | 2,46E-02 | -3,15E-01 |
|  GWP-biogenic | kg CO ₂ -eq | 0 | 0 | 2,72E-05 | 5,52E+00 | 2,17E-05 | -8,52E-04 |
|  GWP-luluc | kg CO ₂ -eq | 0 | 0 | 2,34E-05 | 2,61E-05 | 6,19E-06 | -9,64E-03 |
|  ODP | kg CFC11 -eq | 0 | 0 | 1,49E-08 | 1,28E-08 | 8,59E-09 | -1,72E-02 |
|  AP | mol H+ -eq | 0 | 0 | 1,89E-04 | 8,02E-04 | 2,02E-04 | -2,48E-03 |
|  EP-FreshWater | kg P -eq | 0 | 0 | 5,25E-07 | 2,52E-06 | 2,74E-07 | -2,40E-05 |
|  EP-Marine | kg N -eq | 0 | 0 | 3,74E-05 | 3,67E-04 | 6,88E-05 | -7,03E-04 |
|  EP-Terrestrial | mol N -eq | 0 | 0 | 4,18E-04 | 3,82E-03 | 7,61E-04 | -7,62E-03 |
|  POCP | kg NMVOC -eq | 0 | 0 | 1,60E-04 | 9,40E-04 | 2,20E-04 | -2,15E-03 |
|  ADP-minerals&metals ¹ | kg Sb -eq | 0 | 0 | 1,82E-06 | 4,61E-07 | 2,07E-07 | -2,23E-06 |
|  ADP-fossil ¹ | MJ | 0 | 0 | 9,94E-01 | 7,18E-01 | 5,91E-01 | -4,38E+00 |
|  WDP ¹ | m ³ | 0 | 0 | 9,61E-01 | 1,41E+00 | 6,75E-01 | -8,75E+01 |







GWP-total = Global Warming Potential total; 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







"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

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

Remarks to environmental impacts

| Additional environmental impact indicators | | | | | | | |
|---|-------------------|-----------|----------|----------|----------|----|--|
| Indicator | Unit | A1-A3 | A4 | A5 | B2 | B3 | |
|  PM | Disease incidence | 1,12E-05 | 4,13E-08 | 8,25E-10 | 2,37E-10 | 0 | |
|  IRP ² | kgBq U235 -eq | 1,77E+00 | 4,47E-02 | 7,07E-04 | 2,03E-02 | 0 | |
|  ETP-fw ¹ | CTUe | 7,93E+02 | 7,57E+00 | 2,20E-01 | 3,13E-01 | 0 | |
|  HTP-c ¹ | CTUh | 6,51E-08 | 0,00E+00 | 7,00E-12 | 9,00E-12 | 0 | |
|  HTP-nc ¹ | CTUh | 7,51E-07 | 8,28E-09 | 2,76E-10 | 2,17E-10 | 0 | |
|  SQP ¹ | dimensionless | -3,94E+04 | 7,11E+00 | 1,11E-01 | 2,63E-01 | 0 | |




| Indicator | Unit | B4 | C1 | C2 | C3 | C4 | D |
|---|-------------------|----|----|----------|----------|----------|-----------|
|  PM | Disease incidence | 0 | 0 | 4,02E-09 | 7,87E-09 | 3,80E-09 | -1,23E-07 |
|  IRP ² | kgBq U235 -eq | 0 | 0 | 4,34E-03 | 2,17E-03 | 2,45E-03 | -2,59E-02 |
|  ETP-fw ¹ | CTUe | 0 | 0 | 7,37E-01 | 3,06E+00 | 3,96E-01 | -1,96E+01 |
|  HTP-c ¹ | CTUh | 0 | 0 | 0,00E+00 | 2,02E-10 | 9,00E-12 | -5,36E-10 |
|  HTP-nc ¹ | CTUh | 0 | 0 | 8,05E-10 | 6,87E-09 | 3,75E-10 | -1,99E-08 |
|  SQP ¹ | dimensionless | 0 | 0 | 6,95E-01 | 1,79E-01 | 1,23E+00 | -2,26E+01 |











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 = Soil Quality (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.




| Resource use | | | | | | | | |
|---|-------|----------------|----------|----------|-----------|----------|----|--|
| Indicator | | Unit | A1-A3 | A4 | A5 | B2 | B3 | |
|  | PERE | MJ | 6,26E+02 | 1,46E-01 | 2,72E-03 | 2,85E-01 | 0 | |
|  | PERM | MJ | 8,77E+01 | 0,00E+00 | -6,11E+00 | 0,00E+00 | 0 | |
|  | PERT | MJ | 7,13E+02 | 1,46E-01 | -6,11E+00 | 2,85E-01 | 0 | |
|  | PENRE | MJ | 6,24E+02 | 1,02E+01 | 1,65E-01 | 5,95E-01 | 0 | |
|  | PENRM | MJ | 2,20E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | |
|  | PENRT | MJ | 6,46E+02 | 1,02E+01 | 1,65E-01 | 5,95E-01 | 0 | |
|  | SM | kg | 1,14E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | |
|  | RSF | MJ | 1,17E-01 | 5,21E-03 | 9,02E-05 | 1,11E-03 | 0 | |
|  | NRSF | MJ | 1,48E-01 | 1,86E-02 | 3,72E-04 | 3,49E-03 | 0 | |
|  | FW | m ³ | 5,99E-01 | 1,09E-03 | 7,80E-05 | 6,48E-04 | 0 | |




| Indicator | | Unit | B4 | C1 | C2 | C3 | C4 | D |
|---|-------|----------------|----|----|----------|-----------|----------|-----------|
|  | PERE | MJ | 0 | 0 | 1,42E-02 | 6,87E-02 | 7,13E-03 | -2,12E+01 |
|  | PERM | MJ | 0 | 0 | 0,00E+00 | -5,59E+01 | 0,00E+00 | 0,00E+00 |
|  | PERT | MJ | 0 | 0 | 1,42E-02 | -5,58E+01 | 7,13E-03 | -2,12E+01 |
|  | PENRE | MJ | 0 | 0 | 9,94E-01 | 7,34E-01 | 5,91E-01 | -4,38E+00 |
|  | PENRM | MJ | 0 | 0 | 0,00E+00 | -3,46E+00 | 0,00E+00 | 0,00E+00 |
|  | PENRT | MJ | 0 | 0 | 9,94E-01 | -2,73E+00 | 5,91E-01 | -4,38E+00 |
|  | SM | kg | 0 | 0 | 0,00E+00 | 0,00E+00 | 1,47E-04 | 0,00E+00 |
|  | RSF | MJ | 0 | 0 | 5,09E-04 | 1,53E-03 | 1,60E-04 | -3,80E-03 |
|  | NRSF | MJ | 0 | 0 | 1,82E-03 | 0,00E+00 | 1,01E-02 | -1,24E+00 |
|  | FW | m ³ | 0 | 0 | 1,06E-04 | 1,25E-03 | 6,35E-04 | -2,71E-02 |

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 resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed






| End of life - Waste | | | | | | | |
|---|------|------|----------|----------|----------|----------|----|
| Indicator | | Unit | A1-A3 | A4 | A5 | B2 | B3 |
|  | HWD | kg | 1,67E-01 | 5,27E-04 | 0,00E+00 | 3,10E-05 | 0 |
|  | NHWD | kg | 8,58E+00 | 4,94E-01 | 7,30E-01 | 1,96E-03 | 0 |
|  | RWD | kg | 2,54E-03 | 6,97E-05 | 0,00E+00 | 8,94E-06 | 0 |






| Indicator | | Unit | B4 | C1 | C2 | C3 | C4 | D |
|---|------|------|----|----|----------|----------|----------|-----------|
|  | HWD | kg | 0 | 0 | 5,12E-05 | 0,00E+00 | 1,02E-01 | 1,76E-04 |
|  | NHWD | kg | 0 | 0 | 4,83E-02 | 3,70E-02 | 3,71E+00 | -1,03E-01 |
|  | RWD | kg | 0 | 0 | 6,77E-06 | 0,00E+00 | 3,77E-06 | -2,18E-05 |

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

*Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

| End of life - Output flow | | | | | | | |
|--|-----|------|----------|----------|----------|----------|----|
| Indicator | | Unit | A1-A3 | A4 | A5 | B2 | B3 |
|  | CRU | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 |
|  | MFR | kg | 1,06E-01 | 0,00E+00 | 6,79E-01 | 0,00E+00 | 0 |
|  | MER | kg | 3,37E-05 | 0,00E+00 | 9,94E-07 | 0,00E+00 | 0 |
|  | EEE | MJ | 2,04E-01 | 0,00E+00 | 4,18E-02 | 0,00E+00 | 0 |
|  | EET | MJ | 3,08E+00 | 0,00E+00 | 6,32E-01 | 0,00E+00 | 0 |

| Indicator | | Unit | B4 | C1 | C2 | C3 | C4 | D |
|---|-----|------|----|----|----------|----------|----------|----------|
|  | CRU | kg | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
|  | MFR | kg | 0 | 0 | 0,00E+00 | 8,93E-03 | 1,38E-04 | 0,00E+00 |
|  | MER | kg | 0 | 0 | 0,00E+00 | 3,62E+00 | 1,12E-06 | 0,00E+00 |
|  | EEE | MJ | 0 | 0 | 0,00E+00 | 2,48E+00 | 9,67E-06 | 0,00E+00 |
|  | EET | MJ | 0 | 0 | 0,00E+00 | 3,76E+01 | 1,46E-04 | 0,00E+00 |

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

*Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

| Biogenic Carbon Content | | |
|---|------|---------------------|
| Indicator | Unit | At the factory gate |
| Biogenic carbon content in product | kg C | 1,36E+00 |
| Biogenic carbon content in accompanying packaging | kg C | 8,48E-01 |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Electricity mix | Data source | Amount | Unit |
|---------------------------|---------------|--------|---------------------------|
| Electricity, Sweden (kWh) | ecoinvent 3.6 | 54,94 | g CO ₂ -eq/kWh |

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

A test report for the indoor emissions is available here: <https://lammhults.sharepoint.com/:b/s/abs-webpage/ERc9bgxSH25PuXo8qFqO3aUB4nj6i4mQkHFtR39nBCac2A?e=Ecuxp5>

Additional Environmental Information

Key Environmental Indicators

| Key environmental indicators | Unit | A1-A3 | A4 | A1-C4 | A1-D |
|------------------------------|------------------------|---------|-------|---------|---------|
| GWPtotal | kg CO ₂ -eq | 88,29 | 0,68 | 96,13 | 95,80 |
| Total energy consumption | MJ | 1249,59 | 10,40 | 1263,47 | 1236,64 |
| Amount of recycled materials | % | 11,63 | | | |

Additional environmental impact indicators required in NPCR Part A for construction products

| Indicator | Unit | A1-A3 | A4 | A5 | B2 | B3 |
|-----------|------------------------|----------|----------|----------|----------|----|
| GWPIOBC | kg CO ₂ -eq | 9,36E+01 | 6,78E-01 | 0,00E+00 | 5,49E-03 | 0 |

| Indicator | Unit | B4 | C1 | C2 | C3 | C4 | D |
|-----------|------------------------|----|----|----------|----------|----------|-----------|
| GWPIOBC | kg CO ₂ -eq | 0 | 0 | 6,58E-02 | 1,92E+00 | 2,76E-02 | -3,18E-01 |

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Variants and Options

Key environmental indicators (A1-A3) for variants of this EPD

| Variants | Weight (kg) | GWPtotal (kg CO ₂ -eq) | Total energy consumption (MJ) | Amount of recycled materials (%) |
|--------------------------------|-------------|-----------------------------------|-------------------------------|----------------------------------|
| Soneo Wall Panel 500x500x50 | 3,98 | 16,69 | 290,55 | 17,62 |
| Soneo Wall Panel 500x500x30 | 2,51 | 20,22 | 292,96 | 10,85 |
| Soneo Wall Panel 500x1000x30 | 4,49 | 42,85 | 612,24 | 12,80 |
| Soneo Wall Panel 500x1000x50 | 6,44 | 35,88 | 567,83 | 15,48 |
| Soneo Wall Panel 500x1000x100 | 12,30 | 42,66 | 955,03 | 14,24 |
| Soneo Wall Panel 1000x1000x50 | 9,97 | 74,83 | 1081,85 | 15,18 |
| Soneo Wall Panel 1000x1000x100 | 18,45 | 94,21 | 1824,41 | 12,71 |
| Soneo Wall Panel 500x500x100 | 7,62 | 18,84 | 491,07 | 15,85 |

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