

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

### Soneo 30 Suspended Desk Screen 1000x650x30



## abstracta

The Norwegian EPD Foundation

**Owner of the declaration:** Abstracta AB

Product: Soneo 30 Suspended Desk Screen 1000x650x30

**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:** 

**Registration number:** 

Issue date:

Valid to:

EPD Software: LCA.no EPD generator ID: 70970

### **General information**

Product Soneo 30 Suspended Desk Screen 1000x650x30

#### 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:**

#### 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 30 Suspended Desk Screen 1000x650x30

Declared unit (cradle to gate) with option:

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

#### Functional unit:

The product is attached to a desk 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:

#### 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:

Valid to:

#### 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:

Elisabet Amat, GREENIZE projects (no signature required)

Håkon Hauan, CEO EPD-Norge

### Product

### **Product description:**

Firmly focused on room acoustics, Soneo is a series of highly functional free-standing and desk-mounted screens that comes into its own in challenging acoustic conditions. The table-screen provide an effective means of creating a pleasant working environment by lowering noise levels and enhancing privacy. They can also be equipped with inconspicuous storage accessories made of transparent acrylic, making it easier to keep desks orderly and free of clutter. Find more information at our product page: https://abstracta.se/product/soneo-table-screen/.

#### **Product specification**

Soneo is a functional and clean screen series. With its sound absorbing core, it creates a comfortable soundscape. The screens are made from a solid wood frame filled with sound absorbing material, covered in fabrics. Choose your fabric from a wide variety of options.

The product is sold without fittings for mounting onto the desk. Soneo also has multiple accessories and tools that can be attached to it. 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 (%)
Powder coating	0,00	0,04	0,00	0,00
Таре	0,01	0,14	0,00	1,07
Filt	0,53	10,65	0,00	0,00
Metal	0,31	6,20	0,00	0,00
Glue for wood	0,04	0,89	0,00	0,00
Plastic - Polypropylene (PP)	0,00	0,08	0,00	100,00
Plastic - Polyurethane (PUR)	0,04	0,85	0,00	0,00
Metal - Stainless steel	0,07	1,42	0,02	21,83
Wood	3,61	73,12	0,00	0,00
Textile - Wool	0,33	6,60	0,00	0,00
Total	4,94		0,02	
Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0,22	25,03	0,00	0,00

74.97

0.65

5,81

#### **Technical data:**

Recycled cardboard

Total incl. packaging

The dimensions of Soneo 30 Suspended Desk Screen are 1000x650x30, but other sizes are also available. This EPD is made for Soneo 30, including a standard choice for fittings. Note that the fittings are not included in the product. Soneo also has multiple accessories available, but this EPD does not include these.

100.00

For more information on the technical data of Soneo 30 Suspended Desk Screen, see the technical data sheet: https://lammhults.sharepoint.com/:b:/s/abs-webpage/EUHy5sD7uKFDvxFdGJbt-mUBWvb\_VVx\_Y3CiWGewPerkmA?e=lyJeGs

0.65

0,67

#### Market:

Available worldwide.

**Reference service life, product** 

10 years

#### Reference service life, building

60 years

#### LCA: Calculation rules

#### **Declared unit:**

1 pcs Soneo 30 Suspended Desk Screen 1000x650x30

#### **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.

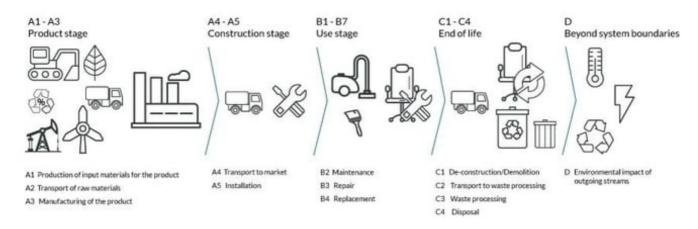
Materials	Source	Data quality	Year
Таре	ecoinvent 3.6	Database	2019
Powder coating	Ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Filt	S-P-04908	EPD	2020
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	Modified ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Glue for wood	ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Wood	ecoinvent 3.6	Database	2019
Textile - Wool	Modified ecoinvent 3.6	Database	2019

#### Construc End of life stage Use stage Product stage Manufacturing Recycling-potential Refurbishment -Recovery-Maintenance Replacement Dperational perational use rocessing Raw ransport Transport lansport Disposal energy Waste Repair Use ISe vater Ġ Reuse-I A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 B6 Β7 C1 C2 C3 C4 D MND MND MND MND X X Х Х Х X X X X X

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

#### System boundary:

The analysis is a cradle-to-grave, 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	0,65			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0,22			
Maintenance (B2)	Unit	Value			
Electricity, Sweden (kWh)	kWh/DU	0,15			
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	0,04			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,31			
Waste treatment per kg Paperboard, incineration with fly ash extraction - C3 (kg)	kg	0,01			
Waste treatment per kg Polyethylene terephthalate, PET, incineration with fly ash extraction - C3 (kg)	kg	0,53			
Waste treatment per kg Polypropylene (PP), ncineration with fly ash extraction - C3 (kg)	kg	0,00			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	0,04			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	0,07			
Waste treatment per kg Textile, incineration with fly ash extraction (kg)	kg	0,33			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	3,61			
Waste, materials to recycling (kg)	kg	0,02			
Disposal (C4)	Unit	Value			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	0,05			
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	0,07			
Landfilling of ashes from incineration of Paperboard, process per kg ashes and residues - C4 (kg)	kg	0,00			
Landfilling of ashes from incineration of Polyethylene terephthalate, PET, process per kg ashes and residues - C4 (kg)	kg	0,01			
Landfilling of ashes from incineration of Polypropylene, PP, 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	0,02			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0,04			

Benefits and loads beyond the system boundaries (D)	Unit	Value		
Substitution of electricity, in Norway (MJ)	MJ	3,61		
Substitution of primary steel with net scrap (kg)	kg	0,02		
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	54,66		

### LCA: Results

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

Environnie	ental impact							
	Indicator		Jnit	A1-A3	A4	A5	B2	B3
P	GWP-total	kg	CO <sub>2</sub> -eq	1,60E+01	4,89E-01	1,49E+00	8,24E-03	0
P	GWP-fossil	kg	CO <sub>2</sub> -eq	1,21E+01	4,89E-01	1,41E-02	7,59E-03	0
(j)	GWP-biogenic	kg	CO <sub>2</sub> -eq	2,37E+00	2,02E-04	1,48E+00	1,54E-04	0
¢	GWP-luluc	kg	CO <sub>2</sub> -eq	1,50E+00	1,75E-04	4,66E-06	4,93E-04	0
Ò	ODP	kg C	-C11 -eq	3,05E-06	1,11E-07	2,98E-09	3,72E-09	0
(F)	АР	mo	H+ -eq	3,91E-01	1,54E-03	6,67E-05	4,94E-05	0
	EP-FreshWater	kç	P -eq	4,21E-03	3,89E-06	1,16E-07	5,13E-07	0
	EP-Marine	kg	N -eq	6,92E-02	3,13E-04	2,21E-05	8,42E-06	0
	EP-Terrestial	mc	l N -eq	1,61E+00	3,50E-03	2,39E-04	1,11E-04	0
	POCP	kg Ni	1VOC -eq	5,10E-02	1,29E-03	6,87E-05	2,53E-05	0
	ADP-minerals&metals <sup>1</sup>	kg	Sb -eq	2,27E-02	1,34E-05	3,43E-07	3,04E-07	0
Ð	ADP-fossil <sup>1</sup>		MJ	1,42E+02	7,38E+00	1,97E-01	8,90E-01	0
<b>%</b>	WDP <sup>1</sup>		m <sup>3</sup>	2,06E+03	7,10E+00	2,50E-01	9,03E+01	0
	Indicator	Unit	B4	C1	C2	C3	C4	D
P								
S.	GWP-total	kg CO <sub>2</sub> -eq	0	0	4,75E-02	8,57E+00	6,97E-03	-3,49E-01
<b>P</b>	GWP-fossil	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0	0 0	4,75E-02 4,74E-02	8,57E+00 2,07E+00	6,97E-03 6,96E-03	-3,49E-01 -3,37E-01
P	GWP-fossil	kg CO <sub>2</sub> -eq	0	0	4,74E-02	2,07E+00	6,96E-03	-3,37E-01
P	GWP-fossil GWP-biogenic	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0	0 0	4,74E-02 1,96E-05	2,07E+00 6,49E+00	6,96E-03 5,22E-06	-3,37E-01 -6,66E-04
P P	GWP-fossil GWP-biogenic GWP-luluc	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0 0	0 0 0	4,74E-02 1,96E-05 1,69E-05	2,07E+00 6,49E+00 4,64E-05	6,96E-03 5,22E-06 9,79E-07	-3,37E-01 -6,66E-04 -1,09E-02
P P D	GWP-fossil GWP-biogenic GWP-luluc ODP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq	0 0 0 0 0 0	0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08	2,07E+00 6,49E+00 4,64E-05 2,17E-08	6,96E-03 5,22E-06 9,79E-07 6,98E-10	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02
P P D C	GWP-fossil GWP-biogenic GWP-luluc ODP AP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq		0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08 1,36E-04	2,07E+00 6,49E+00 4,64E-05 2,17E-08 1,17E-03	6,96E-03 5,22E-06 9,79E-07 6,98E-10 2,18E-05	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02 -2,71E-03
P P D C C C C C C C C C C C C C C C C C	GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq	0 0 0 0 0 0	0 0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08 1,36E-04 3,79E-07	2,07E+00 6,49E+00 4,64E-05 2,17E-08 1,17E-03 3,78E-06	6,96E-03 5,22E-06 9,79E-07 6,98E-10 2,18E-05 7,74E-08	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02 -2,71E-03 -2,94E-05
	GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08 1,36E-04 3,79E-07 2,70E-05	2,07E+00 6,49E+00 4,64E-05 2,17E-08 1,17E-03 3,78E-06 5,28E-04	6,96E-03 5,22E-06 9,79E-07 6,98E-10 2,18E-05 7,74E-08 6,67E-06	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02 -2,71E-03 -2,94E-05 -8,74E-04
	GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08 1,36E-04 3,79E-07 2,70E-05 3,02E-04	2,07E+00 6,49E+00 4,64E-05 2,17E-08 1,17E-03 3,78E-06 5,28E-04 5,48E-03	6,96E-03 5,22E-06 9,79E-07 6,98E-10 2,18E-05 7,74E-08 6,67E-06 7,59E-05	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02 -2,71E-03 -2,94E-05 -8,74E-04 -9,44E-03
	GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq kg NMVOC -eq	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	4,74E-02 1,96E-05 1,69E-05 1,07E-08 1,36E-04 3,79E-07 2,70E-05 3,02E-04 1,16E-04	2,07E+00 6,49E+00 4,64E-05 2,17E-08 1,17E-03 3,78E-06 5,28E-04 5,48E-03 1,35E-03	6,96E-03 5,22E-06 9,79E-07 6,98E-10 2,18E-05 7,74E-08 6,67E-06 7,59E-05 2,13E-05	-3,37E-01 -6,66E-04 -1,09E-02 -2,31E-02 -2,71E-03 -2,94E-05 -8,74E-04 -9,44E-03 -2,65E-03

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 en	vironmental impac	t indicators						
	Indicator	Unit		A1-A3	A4	A5	B2	B3
	PM	Disease incidence	Disease incidence		2,98E-08	9,85E-10	3,56E-10	0
(**) E	IRP <sup>2</sup>	kgBq U235 -eq		1,05E+00	3,23E-02	8,43E-04	3,05E-02	0
	ETP-fw <sup>1</sup>	CTUe		4,77E+02	5,46E+00	2,63E-01	4,70E-01	0
40 * ****	HTP-c <sup>1</sup>	CTUh		2,32E-08	0,00E+00	8,00E-12	1,40E-11	0
*	HTP-nc <sup>1</sup>	CTUh		4,62E-07	5,97E-09	3,29E-10	3,25E-10	0
	SQP <sup>1</sup>	dimensionless		-1,29E+04	5,13E+00	1,32E-01	3,94E-01	0
h	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	2,90E-09	1,07E-08	2,62E-10	-1,60E-07
()**) B	IRP <sup>2</sup>	kgBq U235 -eq	0	0	3,13E-03	3,33E-03	2,78E-04	-2,89E-02
<del>da</del>	ETP-fw <sup>1</sup>	CTUe	0	0	5,32E-01	5,18E+00	1,05E-01	-2,58E+01
40.* ****	HTP-c <sup>1</sup>	CTUh	0	0	0,00E+00	3,31E-10	6,00E-12	-5,50E-10
88 E	HTP-nc <sup>1</sup>	CTUh	0	0	5,81E-10	1,06E-08	1,92E-10	-2,15E-08
è	SQP <sup>1</sup>	dimensionless	0	0	5,02E-01	2,60E-01	1,57E-01	-3,03E+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		U	nit	A1-A3	A4	A5	B2	B3
in the second se	PERE		Ν	LN	1,26E+02	1,05E-01	3,25E-03	4,28E-01	0
æ	PERM	PERM		Ŋ	6,79E+01	0,00E+00	-7,29E+00	0,00E+00	0
° <b>₹ı</b>	PERT		Ν	LN	1,94E+02	1,05E-01	-7,29E+00	4,28E-01	0
B	PENRE		Ν	Ŋ	1,40E+02	7,38E+00	1,97E-01	8,92E-01	0
Å2	PENRM		Ν	Ŋ	1,40E+01	0,00E+00	0,00E+00	0,00E+00	0
IA	PENRT		Ν	Ŋ	1,54E+02	7,38E+00	1,97E-01	8,92E-01	0
	SM		k	g	6,72E-01	0,00E+00	0,00E+00	0,00E+00	0
1	RSF		Ν	Ŋ	2,00E-01	3,76E-03	1,08E-04	1,66E-03	0
Ū.	NRSF		Ν	Ŋ	1,33E-01	1,34E-02	4,44E-04	5,24E-03	0
(%)	FW	m <sup>3</sup>		2 125 01	7,86E-04	9,30E-05	9,72E-04	0	
<u> </u>			n	n <sup>o</sup>	2,13E-01	7,00E-04	9,50E-05	9,72L-04	0
	icator	L	n J <b>nit</b>	n <sup>3</sup> B4	2,13E-01	7,86E-04	9,30E-03	5,72L-04	D
Indi	icator		Jnit	B4	C1	C2	C3	C4	D
াndi ুল উঠ	icator PERE		<b>Jnit</b> MJ	B4 0	C1 0	C2 1,03E-02	C3 1,03E-01	C4 3,77E-03	D -2,80E+01
ाndi ि मि	icator PERE PERM		<b>Jnit</b> MJ MJ	B4 0 0	C1 0 0	C2 1,03E-02 0,00E+00	C3 1,03E-01 -5,77E+01	C4 3,77E-03 0,00E+00	D -2,80E+01 0,00E+00
ाndi ि मि दि	icator PERE PERM PERT		Jnit MJ MJ MJ	B4 0 0 0	C1 0 0 0	C2 1,03E-02 0,00E+00 1,03E-02	C3 1,03E-01 -5,77E+01 -5,76E+01	C4 3,77E-03 0,00E+00 3,77E-03	D -2,80E+01 0,00E+00 -2,80E+01
indi ्रि द्वि दि	icator PERE PERM PERT PENRE		Jnit MJ MJ MJ	B4 0 0 0 0	C1 0 0 0 0	C2 1,03E-02 0,00E+00 1,03E-02 7,17E-01	C3 1,03E-01 -5,77E+01 -5,76E+01 1,11E+00	C4 3,77E-03 0,00E+00 3,77E-03 5,85E-02	D -2,80E+01 0,00E+00 -2,80E+01 -4,70E+00
Indi Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control C	icator PERE PERM PERT PENRE PENRM		Jnit MJ MJ MJ MJ MJ	B4 0 0 0 0 0	C1 0 0 0 0 0	C2 1,03E-02 0,00E+00 1,03E-02 7,17E-01 0,00E+00	C3 1,03E-01 -5,77E+01 -5,76E+01 1,11E+00 -1,40E+01	C4 3,77E-03 0,00E+00 3,77E-03 5,85E-02 0,00E+00	D -2,80E+01 0,00E+00 -2,80E+01 -4,70E+00 0,00E+00
Indi Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints	icator PERE PERM PERT PENRE PENRM PENRT		Jnit MJ MJ MJ MJ MJ	B4 0 0 0 0 0 0	C1 0 0 0 0 0 0 0	C2 1,03E-02 0,00E+00 1,03E-02 7,17E-01 0,00E+00 7,17E-01	C3 1,03E-01 -5,77E+01 -5,76E+01 1,11E+00 -1,40E+01 -1,29E+01	C4 3,77E-03 0,00E+00 3,77E-03 5,85E-02 0,00E+00 5,85E-02	D -2,80E+01 0,00E+00 -2,80E+01 -4,70E+00 0,00E+00 -4,70E+00
India Second Second Se	icator  PERE  PERM  PERT  PENRE  PENRM  PENRT  SM		Jnit MJ MJ MJ MJ MJ kg	B4 0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0 0 0	C2 1,03E-02 0,00E+00 1,03E-02 7,17E-01 0,00E+00 7,17E-01 0,00E+00	C3 1,03E-01 -5,77E+01 -5,76E+01 1,11E+00 -1,40E+01 -1,29E+01 0,00E+00	C4 3,77E-03 0,00E+00 3,77E-03 5,85E-02 0,00E+00 5,85E-02 0,00E+00	D -2,80E+01 0,00E+00 -2,80E+01 -4,70E+00 0,00E+00 0,00E+00

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; PERT = Total use of non renewable primary energy resources; SENRE = Use of non renewable primary energy resources; SENRE = Use of non renewable primary energy resources; SM = Use of secondary materials; RESF = Use of renewable primary energy resources; SM = Use of secondary materials; RESF = 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	End of life - Waste								
	Indicator		Ui	nit	A1-A3	A4	A5	B2	B3
Â	HWD	HWD		kg		3,80E-04	0,00E+00	4,65E-05	0
Ū	NHWD		k	g	2,28E+00	3,56E-01	8,71E-01	2,94E-03	0
æ	RWD		k	g	6,46E-04	5,03E-05	0,00E+00	1,34E-05	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
à	HWD		kg	0	0	3,70E-05	0,00E+00	1,51E-01	-3,19E-04
Ū	NHWD		kg	0	0	3,49E-02	3,52E-01	3,75E-02	-1,15E-01
8	RWD		kg	0	0	4,89E-06	0,00E+00	3,20E-07	-2,37E-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								
Indi	cator	Ur	Unit		A4	A5	B2	B3
$\langle \hat{\varphi} \rangle$	CRU	kg		0,00E+00	0,00E+00	0,00E+00	0,00E+00	0
	MFR	k	9	7,63E-02	0,00E+00	8,10E-01	0,00E+00	0
DF	MER	k	9	3,31E-05	0,00E+00	1,19E-06	0,00E+00	0
۶D	EEE	N	J	1,47E-01	0,00E+00	4,98E-02	0,00E+00	0
DØ	EET	M	J	2,22E+00	0,00E+00	7,54E-01	0,00E+00	0
Indicato	r	Unit	B4	C1	C2	C3	C4	D
$\otimes \triangleright$	CRU	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
\$\$D	MFR	kg	0	0	0,00E+00	2,38E-02	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	4,94E+00	0,00E+00	0,00E+00
50	EEE	MJ	0	0	0,00E+00	3,36E+00	0,00E+00	0,00E+00
DÐ	EET	MJ	0	0	0,00E+00	5,09E+01	0,00E+00	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	1,95E+00					
Biogenic carbon content in accompanying packaging	kg C	1,32E-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 CO2-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/EQCz3a7seShFniUDjJt9cvAB3dqMWL209AMRjPuqcdxuiQ?e=qAAwXG

### **Additional Environmental Information**

#### **Key Environmental Indicators**

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO <sub>2</sub> -eq	15,95	0,49	26,56	26,22
Total energy consumption	MJ	266,64	7,51	277,69	243,34
Amount of recycled materials	%	9,47			

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit		A1-A3	A4	A5	B2	B3
GWPIOBC	kg CO <sub>2</sub> -eq		2,23E+01	4,89E-01	0,00E+00	8,23E-03	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	4,75E-02	2,29E+00	8,67E-03	-3,54E-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.

### Bibliography

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

ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.

EN 15804:2012 + A2:2019 Environmental product declaration - Core rules for the product category of construction products. ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.

Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no Report number: 07.21 Ruud et al., (2023) EPD generator for NPCR026 Part B for Furniture - Background information for EPD generator application and LCA data, LCA.no report number 01.23

NPCR Part A: Construction products and services. Ver. 2.0. March 2021, EPD-Norge. NPCR 026 Part B for Furniture. Ver. 2.0 March 2022, EPD-Norge.

	Program operator and publisher	Phone: +47 23 08 80 00
	The Norwegian EPD Foundation	e-mail: post@epd-norge.no
	Post Box 5250 Majorstuen, 0303 Oslo, Norway	web: www.epd-norge.no
abstracta	Owner of the declaration:	Phone:
	Abstracta AB	e-mail: tim.wisme@abstracta.s
	Lammengatan 2, 363 45 Lammhult	web: www.abstracta.se
	Author of the Life Cycle Assessment	Phone: +47 916 50 916
	LCA.no AS	e-mail: post@lca.no
	Dokka 6B, 1671	web: www.lca.no
	Developer of EPD generator	Phone: +47 916 50 916
	LCA.no AS	e-mail: post@lca.no
	Dokka 6B,1671 Kråkerøy	web: www.lca.no
	ECO Platform	web: www.eco-platform.org
	ECO Portal	web: ECO Portal