

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Day High chair 6274: chromed swivel base



Gärnäs

Owner of the declaration:

Gärnäs AB

Product:

Day High chair 6274: chromed swivel base

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:

LCAno EPD generator ID: 398545

The Norwegian EPD Foundation

General information

Product

Day High chair 6274: chromed swivel base

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.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 Day High chair 6274: chromed swivel base

Declared unit (cradle to gate) with option:

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

Functional unit:

Production of one piece of Day High (6274) chair maintained for a period of 15 years. At the product's end of life, it can be recycled or returned to Gärnsnäs for reuse or refurbishment.

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:

Gärnsnäs AB
Contact person:
Phone: +46 414 530 00
e-mail: info@garsnas.se

Manufacturer:

Gärnsnäs AB

Place of production:

Gärnsnäs AB
Malmövägen 16-18
272 61 Gärnsnäs, Sweden

Management system:

ISO 14001

Organisation no:

SE556044474601

Issue date:

Valid to:

Year of study:

2023

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: Petra Mattsson

Reviewer of company-specific input data and EPD: Victor af Wetterstedt

Approved:

Product

Product description:

The Day-series, designed by Pierre Sindre, consists of fully upholstered chairs and armchairs with a metal base. The customer can modify the product to their preference and need. The Day series includes an upholstered seat shell with customer-chosen fabric or leather. Moreover, the customer can choose between a 4-legged fixed base, a 5-legged fixed swivel base, or a 5-legged height adjustable swivel base, with or without armrests in ash, oak, birch, or walnut, and with or without headrests.

The series' versatility makes it suitable for public and private indoor spaces.

Product specification

This declaration is based on the armchair Day 6274 with the fabric Remix from Kvadrat, a chrome plated 5-legged fixed swivel base and a headrest. The most important environmental indicators for the other variants and options of the Day series are presented on page 12.

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Stainless steel	0,38	3,11	0,08	21,89
Metal - Steel	7,07	57,95	1,37	19,43
Plastic - Acrylonitrile butadiene styrene (ABS)	0,06	0,49	0,00	0,00
Plastic - Nylon (PA)	0,08	0,66	0,00	0,00
Plastic - Polyurethane (PUR)	0,70	5,74	0,00	0,00
Powder coating	0,11	0,90	0,00	0,00
Textile	0,31	2,54	0,03	11,20
Wood - Plywood	3,49	28,61	0,00	0,00
Total	12,20	100,00	1,49	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Plastic	0,11	100,00	0,00	0,00
Total incl. packaging	12,31	100,00	1,49	

Technical data:

Width 633 mm
 Depth 621 mm
 Seat height 460 mm
 Total height 1025 mm

Seat: birch veneer upholstered in the fabric Remix from Kvadrat
 Frame: chrome plated steel pipes Ø18 mm

For further product information, visit www.garsnas.se

Market:

Sweden

Reference service life, product

15 years

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs Day High chair 6274: chromed swivel base

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. Allocation of energy consumption associated with the steel base is not allocated equally through mass allocation. Instead, the allocations have been based on the actual energy consumption of each manufacturing process and unit.

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.

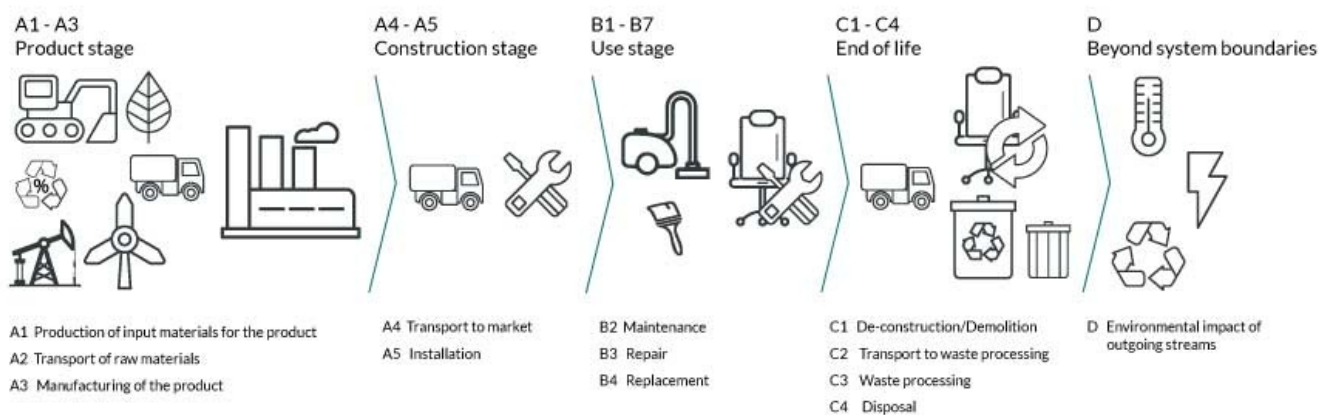
Materials	Source	Data quality	Year
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Plastic - Acrylonitrile butadiene styrene (ABS)	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Powder coating	Ecoinvent 3.6	Database	2019
Textile	MD-23110-EN_rev1	EPD	2021
Wood - Plywood	modified ecoinvent 3.6	Database	2019

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	MNR	MND	MND	X	X	X	X	X

System boundary:

A cradle-to-cradle, A1-D, analysis with a few excluded B-stages, see the chart above. Modules A1-A4 include extraction and production of raw materials, transportation to the factory in Gärnsås, the production process itself, and an estimated transport distance to the market. A5 includes the generated waste from transport packaging after the assembly at the customer. Module B2 include water and electricity usage from cleaning the furniture. Modules C2-D include the transport to waste management, the waste processes, disposal of materials unable to be processed, and the potential of reuse, recovery, and recycling.



Additional technical information:

Gärnsås AB is certified according to ISO 14001:2015. Visit our website for more information about our sustainability efforts: www.garsnas.se. On our website, you can also find our care instructions. Taking care of your product is essential to reduce the product's environmental footprint and prolong service life.

LCA: Scenarios and additional technical information














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














The transport distance in A4 is calculated on our most frequent delivery route, Gärnsås-Stockholm. We cooperate with a local transportation company on this route. Therefore, all packaging material except for a small amount of plastic is excluded.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	655	0,043	l/tkm	28,17
Assembly (A5)					
Waste, packaging, plastic film (LDPE), to average treatment - A5 (kg)	kg	0,11			
Maintenance (B2)					
Electricity, Sweden (kWh)	kWh/DU	0,30			
Water, tap water (m3)	m3/DU	0,03			
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 %	85	0,043	l/tkm	3,66
Waste processing (C3)					
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,55			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,14			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	0,70			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	7,45			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	3,49			
Waste, materials to recycling (kg)	kg	2,53			
Disposal (C4)					
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	4,92			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,13			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, 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	0,03			
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)					
Substitution of electricity (MJ)	MJ	3,95			
Substitution of primary steel with net scrap (kg)	kg	2,03			
Substitution of thermal energy, district heating (MJ)	MJ	59,80			

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	4,30E+01	1,33E+00	8,71E-03	2,68E-02	0	
 GWP-fossil	kg CO ₂ -eq	4,71E+01	1,33E+00	8,71E-03	2,55E-02	0	
 GWP-biogenic	kg CO ₂ -eq	-4,21E+00	5,51E-04	1,20E-06	3,73E-04	0	
 GWP-luluc	kg CO ₂ -eq	1,14E-01	4,74E-04	6,68E-07	1,00E-03	0	
 ODP	kg CFC11 -eq	3,07E-06	3,01E-07	5,23E-10	8,36E-09	0	
 AP	mol H+ -eq	2,44E-01	3,83E-03	1,07E-05	1,59E-04	0	
 EP-FreshWater	kg P -eq	2,67E-03	1,06E-05	1,79E-08	1,85E-06	0	
 EP-Marine	kg N -eq	5,09E-02	7,57E-04	9,83E-06	2,64E-05	0	
 EP-Terrestrial	mol N -eq	5,72E-01	8,47E-03	3,85E-05	3,32E-04	0	
 POCP	kg NMVOC -eq	1,85E-01	3,24E-03	1,27E-05	8,53E-05	0	
 ADP-minerals&metals ¹	kg Sb-eq	8,41E-04	3,68E-05	4,64E-08	8,95E-07	0	
 ADP-fossil ¹	MJ	6,82E+02	2,01E+01	3,59E-02	1,96E+00	0	
 WDP ¹	m ³	1,58E+04	1,95E+01	1,27E-01	1,84E+02	0	

Indicator	Unit	B4	C1	C2	C3	C4	D
 GWP-total	kg CO ₂ -eq	0	0	1,73E-01	9,91E+00	5,71E-02	-2,60E+00
 GWP-fossil	kg CO ₂ -eq	0	0	1,73E-01	3,58E+00	5,71E-02	-2,58E+00
 GWP-biogenic	kg CO ₂ -eq	0	0	7,15E-05	6,33E+00	4,22E-05	-1,95E-03
 GWP-luluc	kg CO ₂ -eq	0	0	6,15E-05	4,98E-05	1,70E-05	-1,29E-02
 ODP	kg CFC11 -eq	0	0	3,91E-08	2,52E-08	1,74E-08	-2,53E-02
 AP	mol H+ -eq	0	0	4,96E-04	2,67E-03	3,99E-04	-1,40E-02
 EP-FreshWater	kg P -eq	0	0	1,38E-06	3,30E-06	5,75E-07	-1,69E-04
 EP-Marine	kg N -eq	0	0	9,82E-05	1,37E-03	1,42E-04	-3,23E-03
 EP-Terrestrial	mol N -eq	0	0	1,10E-03	1,35E-02	1,57E-03	-3,36E-02
 POCP	kg NMVOC -eq	0	0	4,21E-04	3,30E-03	4,52E-04	-1,40E-02
 ADP-minerals&metals ¹	kg Sb-eq	0	0	4,77E-06	1,11E-06	9,70E-07	-4,21E-05
 ADP-fossil ¹	MJ	0	0	2,61E+00	1,70E+00	1,29E+00	-2,38E+01
 WDP ¹	m ³	0	0	2,53E+00	1,00E+00	2,65E+00	5,43E+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	4,61E-06	8,15E-08	1,93E-10	1,22E-09	0	
 IRP ²	kgBq U235 -eq	3,29E+00	8,80E-02	1,62E-04	6,22E-02	0	
 ETP-fw ¹	CTUe	1,62E+03	1,49E+01	3,43E-02	1,13E+00	0	
 HTP-c ¹	CTUh	2,17E-07	0,00E+00	1,00E-12	5,50E-11	0	
 HTP-nc ¹	CTUh	1,86E-06	1,63E-08	3,20E-11	1,28E-09	0	
 SQP ¹	dimensionless	1,57E+03	1,41E+01	6,27E-02	8,37E-01	0	






Indicator	Unit	B4	C1	C2	C3	C4	D
 PM	Disease incidence	0	0	1,06E-08	2,48E-08	7,26E-09	-3,59E-07
 IRP ²	kgBq U235 -eq	0	0	1,14E-02	3,77E-03	5,16E-03	-2,36E-02
 ETP-fw ¹	CTUe	0	0	1,94E+00	1,24E+01	7,80E-01	-1,52E+02
 HTP-c ¹	CTUh	0	0	0,00E+00	7,13E-10	2,80E-11	-1,13E-08
 HTP-nc ¹	CTUh	0	0	2,12E-09	1,59E-08	7,73E-10	2,08E-07
 SQP ¹	dimensionless	0	0	1,83E+00	2,70E-01	2,81E+00	-3,46E+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	4,14E+02	2,88E-01	9,07E-04	8,79E-01	0	
	PERM	MJ	5,07E+01	0,00E+00	0,00E+00	0,00E+00	0	
	PERT	MJ	4,64E+02	2,88E-01	9,07E-04	8,79E-01	0	
	PENRE	MJ	6,50E+02	2,01E+01	3,59E-02	1,96E+00	0	
	PENRM	MJ	3,28E+01	0,00E+00	-4,67E+00	0,00E+00	0	
	PENRT	MJ	6,83E+02	2,01E+01	-4,64E+00	1,96E+00	0	
	SM	kg	1,49E+00	0,00E+00	0,00E+00	0,00E+00	0	
	RSF	MJ	1,05E+00	1,03E-02	2,38E-05	5,23E-03	0	
	NRSF	MJ	8,42E-01	3,68E-02	6,23E-05	1,24E-02	0	
	FW	m ³	6,22E-01	2,15E-03	1,90E-05	3,21E-02	0	

Indicator		Unit	B4	C1	C2	C3	C4	D
	PERE	MJ	0	0	3,74E-02	7,28E-02	2,44E-02	-3,22E+01
	PERM	MJ	0	0	0,00E+00	-5,07E+01	0,00E+00	0,00E+00
	PERT	MJ	0	0	3,74E-02	-5,06E+01	2,44E-02	-3,22E+01
	PENRE	MJ	0	0	2,61E+00	1,76E+00	1,29E+00	-2,38E+01
	PENRM	MJ	0	0	0,00E+00	-2,81E+01	0,00E+00	0,00E+00
	PENRT	MJ	0	0	2,61E+00	-2,64E+01	1,29E+00	-2,38E+01
	SM	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	0	0	1,34E-03	1,67E-03	6,45E-04	7,54E-02
	NRSF	MJ	0	0	4,78E-03	0,00E+00	4,31E-02	5,37E-01
	FW	m ³	0	0	2,79E-04	4,62E-03	1,16E-03	-4,16E-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	3,05E-01	1,04E-03	0,00E+00	1,26E-04	0
	NHWD	kg	1,29E+01	9,79E-01	1,10E-01	8,01E-03	0
	RWD	kg	3,82E-03	1,37E-04	0,00E+00	2,79E-05	0






Indicator		Unit	B4	C1	C2	C3	C4	D
	HWD	kg	0	0	1,35E-04	0,00E+00	5,06E+00	-1,19E-02
	NHWD	kg	0	0	1,27E-01	5,50E-01	7,71E-02	-1,03E+00
	RWD	kg	0	0	1,78E-05	0,00E+00	8,04E-06	-1,98E-05

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

*Reading example: 9,0 E-03 = $9,0 \cdot 10^{-3} = 0,009$

*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	2,30E-01	0,00E+00	5,61E-02	0,00E+00	0
	MER	kg	3,70E-02	0,00E+00	5,50E-06	0,00E+00	0
	EEE	MJ	3,29E-02	0,00E+00	8,45E-06	0,00E+00	0
	EET	MJ	4,97E-01	0,00E+00	1,28E-04	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	2,53E+00	0,00E+00	0,00E+00
	MER	kg	0	0	0,00E+00	1,23E+01	0,00E+00	0,00E+00
	EEE	MJ	0	0	0,00E+00	3,83E+00	0,00E+00	0,00E+00
	EET	MJ	0	0	0,00E+00	5,80E+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 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	1,73E+00
Biogenic carbon content in accompanying packaging	kg C	0,00E+00

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	Source	Amount	Unit
Electricity, European average (kWh)	ecoinvent 3.6	428,03	g CO ₂ -eq/kWh
Electricity, Sweden (kWh)	ecoinvent 3.6	54,94	g CO ₂ -eq/kWh
Electricity, medium voltage mix, guarantee of origin (01.2023-12.2023), Garnaps AB, Sweden (kWh)	Ecoinvent 3.6	18,86	g CO ₂ -eq/kWh

Dangerous substances

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

Indoor environment

The product has no emissions to indoor environment.

Additional Environmental Information

Key Environmental Indicators

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO ₂ -eq	42,97	1,33	54,48	51,88
Total energy consumption	MJ	1065,68	20,46	1094,87	1039,55
Amount of recycled materials	%	12,12			

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	5,91E+01	1,33E+00	8,71E-03	2,68E-02	0

Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	0	0	1,73E-01	2,98E+00	5,88E-02	-3,71E+00

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.

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	Program operator and publisher The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: +47 977 22 020 e-mail: post@epd-norge.no web: www.epd-norge.no
Gärnsäs	Owner of the declaration: Gärnsäs AB Malmövägen 16-18, 272 61 Gärnsäs	Phone: +46 414 530 00 e-mail: info@garsnas.se web: www.garsnas.se
	Author of the Life Cycle Assessment LCA.no AS Dokka 6A, 1671	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
	Developer of EPD generator LCA.no AS Dokka 6B,1671 Kråkerøy	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
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