epd-global
Powered by EPD-Norway

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Karoline Chair

lekolar®

EPD-Global

Owner of the declaration:
Lekolar

Product:
Karoline Chair

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:
EPD-Global

Declaration number:
NEPD-14815-15522

Issue date:
03.02.2026

Valid to:
03.02.2031

EPD software:
LCAno EPD generator ID: 1413275

General information

Product

Karoline Chair

Owner of the declaration:

Lekolar
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Program operator:

EPD-Global
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Manufacturer:

Lekolar

Declaration number:

NEPD-14815-15522

Place of production:

Lekolar
Hallarydsvägen 8
283 36 Osby, Sweden

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

Management system:

ISO 27001, ISO 9001:2015, ISO 45001:2018, ISO 14001:2015

Statement of liability:

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

Organisation no:

556605-0646

Declared unit:

1 pcs Karoline Chair

Issue date:

03.02.2026

Declared unit (cradle to gate) with option:

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

Valid to:

03.02.2031

Year of study:

2025

Functional unit:

1 pcs Karoline Chair

Comparability:

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

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-Global'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-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

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-Global.

Developer of EPD: Hanna Bremander

Reviewer of company-specific input data and EPD: Frida Andersson

Verification of EPD tool:

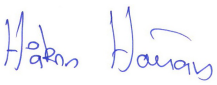
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

The Karoline chair is manufactured as a single-piece, injection-moulded unit made from 100 % recycled polypropylene. The integrated seat and backrest form a durable and lightweight shell designed to support a comfortable and ergonomic sitting posture.

The chair is designed for everyday use and features smooth, robust surfaces that are easy to clean and maintain. Karoline is stackable, allowing for efficient handling and space-saving storage when not in use. The simple, functional design makes the chair suitable for a wide range of environments where durability, practicality and sustainability are key considerations.

Read more at https://www.lekolar.se

Product specification

Karoline C, seat height 65 cm, is a chair designed for educational and public environments where durability, ergonomics and sustainability are key requirements.

The chair is manufactured as a single-piece shell in 100 % recycled polypropylene and is available with different base configurations. The underframe options include four-leg base, sled base, C-frame and D-frame, offered in a range of colours. Certain variants may also be equipped with a beech footrest.

This Environmental Product Declaration (EPD) covers representative products within the Karoline product group. Other variants with identical material composition and manufacturing processes (for example variants, e.g BX range, differing only in colour) are considered equivalent and are therefore not declared separately.

The following variants are included in this EPD:
Karoline C large sh 45 cm
Karoline C medium sh 45 cm - w footrest
Karoline C large sh 45 cm - w footrest
Karoline C medium sh 50 cm - w footrest
Karoline C large sh 50 cm - w footrest
Karoline D large sh 45 cm
Karoline D medium sh 45 cm
Karoline Sled base large sh 45 cm
Karoline Sled base large sh 45 cm - w armrest
Karoline 4 medium sh 33 cm
Karoline 4 medium sh 37 cm
Karoline 4 large sh 45 cm
Karoline 4 large sh 45 cm - w armrest
Karoline Bar stool medium sh 68 cm
Karoline Bar stool medium sh 78 cm

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Stainless steel	0.05	0.6892	0.01092	21.83
Metal - Steel	4.46	61.47	0.892	20.00
Paint, water-based	0.025	0.3446	0.00	0.00
Plastic - Polyethylene (LDPE)	0.22	3.03	0.00	0.00
Plastic - Polypropylene (PP)	2.20	30.32	2.21	100.64
Powder coating	0.05	0.6892	0.00	0.00
Wood - Solid beech/birch	0.25	3.45	0.00	0.00
Total	7.26	100.00	3.12	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0.02	28.57	0.00	0.00
Packaging - Plastic straps	0.05	71.43	0.00	0.00
Total incl. packaging	7.33	100.00	3.12	

Technical data:

Fulfilled technical standards: EN 1729 Furniture - Chairs and tables for educational institutions
All components made of wood is FSC Certified

Market:

Nordic

Reference service life, product

15 years

Reference service life, building

Not relevant

LCA: Calculation rules

Declared unit:

1 pcs Karoline Chair

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
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Plastic straps	ecoinvent 3.6	Database	2019
Paint, water-based	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (LDPE)	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	ecoinvent 3.10.1	Database	2023
Powder coating	ecoinvent 3.6	Database	2019
Wood - Solid beech/birch	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	MND	MND	MND	X	X	X	X	X

System boundary:

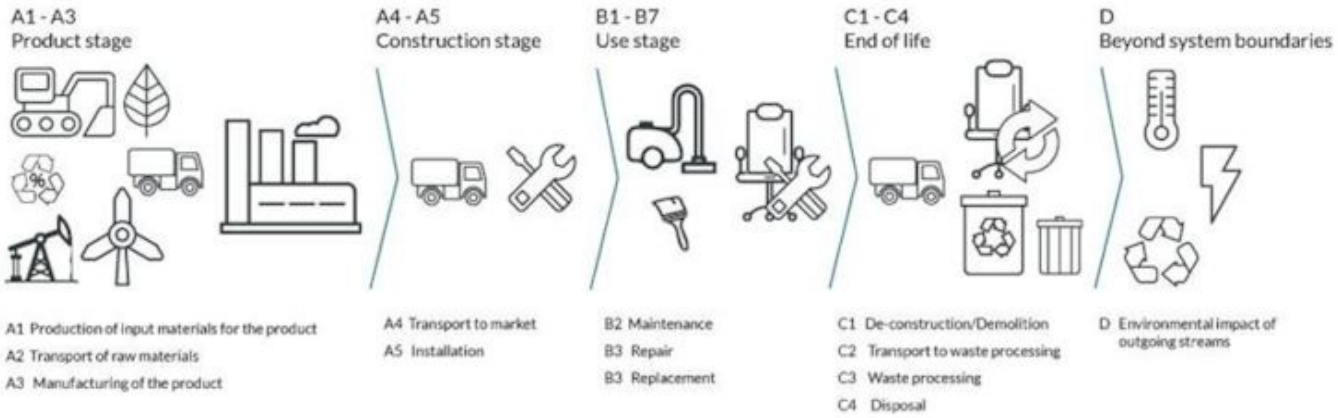
This Environmental Product Declaration (EPD) covers the full life cycle of the Karoline chair. Modules A1–A3 include extraction and processing of raw materials, transport to the production site, and manufacturing of the finished chair. All raw materials are incorporated into the product and no significant production waste is assumed in module A3.

In module A4, the chair is delivered fully assembled. Transport efficiency is supported by the stackable design of the Karoline chair. Module A5 includes handling of packaging, which is assumed to be returned to the manufacturer and reused.

During the use stage, no environmental loads are assumed in module B1. Module B2 includes basic maintenance, limited to cleaning with water and mild detergent. No repair (B3) or replacement (B4) is assumed within the declared reference service life. Modules B5–B7 are not applicable.

At the end-of-life stage, module C1 includes dismantling of the product. In module C2, the chair is assumed to be transported to a local waste treatment facility. In module C3, materials are treated according to common end-of-life routes: steel is sent to recycling, while wood and plastic components are assumed to be incinerated with energy recovery. In module C4, remaining minor residues are landfilled.

Finally, module D accounts for potential environmental benefits from material recycling and from energy recovery through substitution of primary materials and energy sources.



Additional technical information:

To prolong the service life of furniture and interior products, regular maintenance and proper care are essential. For indoor furniture such as stools, desks and chairs, it is recommended to carry out routine cleaning and inspection to maintain appearance, performance and stability. Regular cleaning should be performed with a mild soap solution and a soft cloth to remove dirt and stains from surfaces without damaging coatings.

Read more at: https://www.lekolar.se/aktuellt/skotselrad-mobler-och-inredning/

LCA: Scenarios and additional technical information

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

The Karoline chair is delivered fully assembled from the production site in Osby, Sweden. Transport to the place of use is modelled as delivery by a 16–32-ton EURO 6 truck over an average distance of 300 km, with an assumed average load utilisation of 36.7 %. No on-site assembly is required. Only minor amounts of packaging, consisting of plastic strapping and cardboard, are generated during installation.

During the use stage, no environmental loads are assumed in module B1. Maintenance in module B2 is limited to basic cleaning using water and mild detergent. No repair (B3), replacement (B4) or refurbishment is assumed within the declared reference service life of 15 years.

At the end-of-life stage, the product is assumed to be manually dismantled in module C1. In module C2, the chair is transported 85 km by a 16–32-ton EURO 5 truck to a local waste treatment facility. In module C3, steel components are assumed to be recycled, while plastic components are assumed to be incinerated with energy recovery. Minor residual fractions are disposed of via landfill in module C4.

Module D accounts for potential environmental benefits from material recycling and from exported thermal and electrical energy resulting from energy recovery.

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 %	300.00	0.043	l/tkm	12.90

Assembly (A5)	Unit	Value			
Waste, packaging, PET straps, to average treatment - A5 (kg)	kg	0.05			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0.02			

Maintenance (B2)	Unit	Value			
Household detergent, 5% soap solution (kg)	kg	0.01			
Wastewater, average treatment (m3)	m3	0.00001			

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 %	85.00	0.043	l/tkm	3.66

Waste processing (C3)	Unit	Value			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0.05			
Waste, materials to recycling (kg)	kg	1.54			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	4.51			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	0.25			
Waste treatment per kg Polyethylene, PE, incineration with fly ash extraction - C3 (kg)	kg	0.22			
Waste treatment per kg Polypropylene (PP), incineration with fly ash extraction - C3 (kg)	kg	2.20			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0.01186			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	2.98			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0.002876			
Landfilling of ashes from incineration of Polyethylene, PE, process per kg ashes and residues - C4 (kg)	kg	0.007753			
Landfilling of ashes from incineration of Polypropylene, PP, process per kg ashes and residues - C4 (kg)	kg	0.06548			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	4.21			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	63.71			
Substitution of primary steel with net scrap (kg)	kg	1.22			

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	3.23E+01	3.59E-01	3.82E-02	2.88E-03	0
	GWP-fossil	kg CO_2 -eq	3.19E+01	3.59E-01	4.28E-03	1.11E-03	0
	GWP-biogenic	kg CO_2 -eq	3.31E-01	1.49E-04	3.40E-02	2.09E-04	0
	GWP-luluc	kg CO_2 -eq	7.70E-02	1.28E-04	4.11E-07	1.56E-03	0
	ODP	kg CFC11 -eq	2.53E-06	8.14E-08	3.06E-10	1.86E-10	0
	AP	mol H+ -eq	2.11E-01	1.03E-03	6.41E-06	1.31E-05	0
	EP-FreshWater	kg P -eq	3.80E-03	2.87E-06	1.08E-08	7.99E-06	0
	EP-Marine	kg N -eq	3.24E-02	2.04E-04	4.97E-06	1.34E-05	0
	EP-Terrestial	mol N -eq	3.49E-01	2.28E-03	2.30E-05	4.40E-05	0
	POCP	kg NMVOC -eq	1.22E-01	8.75E-04	7.33E-06	7.47E-06	0
	ADP-minerals&metals[1]	kg Sb-eq	1.04E-03	9.92E-06	2.90E-08	6.77E-08	0
	ADP-fossil[1]	MJ	4.64E+02	5.43E+00	2.09E-02	1.20E-02	0
	WDP[1]	m^3	4.12E+03	5.25E+00	6.35E-02	2.57E-02	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	0	0	1.02E-01	6.82E+00	3.62E-02	-1.73E+00
	GWP-fossil	kg CO_2 -eq	0	0	1.02E-01	6.41E+00	3.62E-02	-1.72E+00
	GWP-biogenic	kg CO_2 -eq	0	0	4.21E-05	4.10E-01	2.65E-05	-1.51E-03
	GWP-luluc	kg CO_2 -eq	0	0	3.62E-05	1.64E-05	1.05E-05	-1.33E-02
	ODP	kg CFC11 -eq	0	0	2.31E-08	7.97E-09	1.07E-08	-2.69E-02
	AP	mol H+ -eq	0	0	2.92E-04	1.00E-03	2.46E-04	-9.74E-03
	EP-FreshWater	kg P -eq	0	0	8.13E-07	1.36E-06	3.70E-07	-1.16E-04
	EP-Marine	kg N -eq	0	0	5.79E-05	4.61E-04	8.74E-05	-2.38E-03
	EP-Terrestial	mol N -eq	0	0	6.47E-04	4.98E-03	9.69E-04	-2.49E-02
	POCP	kg NMVOC -eq	0	0	2.48E-04	1.24E-03	2.78E-04	-9.71E-03
	ADP-minerals&metals[1]	kg Sb-eq	0	0	2.81E-06	4.15E-07	5.94E-07	-2.69E-05
	ADP-fossil[1]	MJ	0	0	1.54E+00	6.83E-01	7.91E-01	-1.66E+01
	WDP[1]	m^3	0	0	1.49E+00	1.46E+00	1.77E+00	4.05E+00

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"

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	1.90E-06	2.20E-08	1.11E-10	1.85E-10	0
	IRP[2]	kgBq U235 -eq	3.44E+00	2.37E-02	9.32E-05	4.37E-05	0
	ETP-fw[1]	CTUe	1.88E+03	4.03E+00	2.16E-02	1.03E-01	0
	HTP-c[1]	CTUh	1.32E-07	0.00E+00	0.00E+00	3.00E-12	0
	HTP-nc[1]	CTUh	1.84E-06	4.40E-09	2.30E-11	6.00E-11	0
	SQP[1]	dimensionless	1.89E+02	3.80E+00	3.15E-02	6.31E-02	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	6.23E-09	1.19E-08	4.45E-09	-2.96E-07
	IRP[2]	kgBq U235 -eq	0	0	6.73E-03	1.49E-03	3.18E-03	-2.89E-02
	ETP-fw[1]	CTUe	0	0	1.14E+00	3.34E+00	4.97E-01	-1.04E+02
	HTP-c[1]	CTUh	0	0	0.00E+00	3.76E-10	1.80E-11	-7.00E-09
	HTP-nc[1]	CTUh	0	0	1.25E-09	7.01E-09	5.13E-10	1.13E-07
	SQP[1]	dimensionless	0	0	1.08E+00	1.15E-01	1.73E+00	-3.62E+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"

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	6.79E+01	7.77E-02	4.87E-04	1.49E-02	0
	PERM	MJ	3.82E+00	0.00E+00	-3.18E-01	0.00E+00	0
	PERT	MJ	7.17E+01	7.77E-02	-3.18E-01	1.49E-02	0
	PENRE	MJ	4.54E+02	5.43E+00	2.09E-02	1.41E-02	0
	PENRM	MJ	8.26E+01	0.00E+00	-1.15E+00	0.00E+00	0
	PENRT	MJ	5.37E+02	5.43E+00	-1.13E+00	1.41E-02	0
	SM	kg	3.12E+00	0.00E+00	0.00E+00	0.00E+00	0
	RSF	MJ	3.29E-01	2.78E-03	1.33E-05	1.80E-05	0
	NRSF	MJ	1.27E+00	9.94E-03	3.85E-05	2.55E-05	0
	FW	m^3	3.07E-01	5.81E-04	1.08E-05	1.63E-04	0

Indicator		**Unit**	B4	C1	C2	C3	C4	D
	PERE	MJ	0	0	2.20E-02	2.63E-02	1.57E-02	-3.35E+01
	PERM	MJ	0	0	0.00E+00	-3.50E+00	0.00E+00	0.00E+00
	PERT	MJ	0	0	2.20E-02	-3.47E+00	1.57E-02	-3.35E+01
	PENRE	MJ	0	0	1.54E+00	6.88E-01	7.91E-01	-1.66E+01
	PENRM	MJ	0	0	0.00E+00	-8.15E+01	0.00E+00	0.00E+00
	PENRT	MJ	0	0	1.54E+00	-8.08E+01	7.91E-01	-1.66E+01
	SM	kg	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	0	0	7.88E-04	6.28E-04	4.12E-04	4.29E-02
	NRSF	MJ	0	0	2.82E-03	0.00E+00	2.65E-02	-5.18E-01
	FW	m^3	0	0	1.65E-04	1.48E-03	7.13E-04	-4.21E-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"

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	B2	B3
	HWD	kg	3.67E-01	2.80E-04	0.00E+00	1.61E-04	0
	NHWD	kg	1.90E+01	2.64E-01	7.00E-02	4.64E-04	0
	RWD	kg	1.96E-03	3.70E-05	0.00E+00	4.78E-08	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	HWD	kg	0	0	7.94E-05	0.00E+00	3.04E+00	-7.25E-03
	NHWD	kg	0	0	7.48E-02	5.00E-02	5.30E-02	-6.75E-01
	RWD	kg	0	0	1.05E-05	0.00E+00	4.87E-06	-2.39E-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"

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	0.00E+00	0.00E+00	4.41E-02	0.00E+00	0
	MER	kg	0.00E+00	0.00E+00	2.53E-06	0.00E+00	0
	EEE	MJ	0.00E+00	0.00E+00	1.15E-03	0.00E+00	0
	EET	MJ	0.00E+00	0.00E+00	1.74E-02	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	1.54E+00	0.00E+00	0.00E+00
	MER	kg	0	0	0.00E+00	7.23E+00	0.00E+00	0.00E+00
	EEE	MJ	0	0	0.00E+00	4.31E+00	0.00E+00	0.00E+00
	EET	MJ	0	0	0.00E+00	6.52E+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"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	1.12E-01
Biogenic carbon content in accompanying packaging	kg C	9.26E-03

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, 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

Does not affect the indoor environment.

Additional Environmental Information

Key Environmental Indicators

Key environmental performance indicators	Unit	Product stage	Construction stage		Use stage			End-of-life				Net benefits and loads from reuse, recovery, and/or recycling
		A1-A3	A4	A5	B2	B3	B4	C1	C2	C3	C4	D
GWPtotal	kg CO_2 -eq	32.26	0.36	0.04	0.00	0.00	0.00	0.00	0.10	6.82	0.04	-1.73
Total energy consumption	MJ	523.41	5.52	0.02	0.03	0.00	0.00	0.00	1.56	0.72	0.83	-50.63
Share of recycled materials	%	42.55										

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	3.30E+01	3.59E-01	4.28E-03	2.86E-03	0

Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	0	0	1.02E-01	6.41E+00	3.65E-02	-1.73E+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.

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 (%)
Karoline C large sh 45 cm	6.00	26.78	437.63	48.50
Karoline C medium sh 45 cm - w footrest	5.87	29.75	488.18	35.85
Karoline C large sh 45 cm - w footrest	6.77	31.34	522.20	44.47
Karoline C medium sh 50 cm - w footrest	5.77	29.46	484.47	35.95
Karoline C large sh 50 cm - w footrest	6.70	28.39	470.83	44.66
Karoline D large sh 45 cm	5.86	25.90	425.62	49.19
Karoline D medium sh 45 cm	4.96	24.37	392.53	39.85
Karoline Sled base large sh 45 cm	5.94	26.40	432.40	48.79
Karoline Sled base large sh 45 cm - w armrest	8.18	40.76	636.80	39.64
Karoline 4 medium sh 33 cm	3.20	13.39	243.28	50.88
Karoline 4 medium sh 37 cm	3.36	14.39	256.85	49.40
Karoline 4 large sh 45 cm	4.52	17.54	311.98	57.90
Karoline 4 large sh 45 cm - w armrest	5.42	21.85	380.14	50.11
Karoline Bar stool medium sh 68 cm	6.54	34.23	526.52	35.01
Karoline Bar stool medium sh 78 cm	6.99	37.05	566.28	33.89

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