epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Alma Armchair






inoff.

The Norwegian EPD Foundation

Owner of the declaration:
inoff inred ab

Product:
Alma Armchair

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-9343-8931

Registration number:
NEPD-9343-8931

Issue date:
20.03.2025

Valid to:
20.03.2030

EPD software:
LCAno EPD generator ID: 779629

General information

Product

Alma Armchair

Owner of the declaration:

inoff inred ab
Contact person: Vesna Paun
Phone: +4672-7033119
e-mail: vesna.paun@inoff.se

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-norge.no

Manufacturer:

inoff inred ab

Declaration number:

NEPD-9343-8931

Place of production:

inoff inred ab
Lilla garnisonsgatan 36
254 67 Helsingborg, 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 9001, ISO 14001, ISO 45001

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.

Organisation no:

556427-4115

Declared unit:

1 pcs Alma Armchair

Issue date:

20.03.2025

Declared unit (cradle to gate) with option:

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

Valid to:

20.03.2030

Year of study:

2023

Functional unit:

Alma Armchair is a comfortable wooden chair available with or without armrests. Designed for durability, it features a detachable seat cover and back cushion.

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-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

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: Vesna Paun

Reviewer of company-specific input data and EPD: Dennis Ilin

Verification of EPD tool:

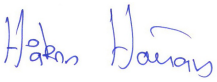
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

Alma is a timeless furniture series made of solid birch, designed by Anton Björsing. The chair combines classic elegance with practical features and is well-suited for a variety of environments.
It is available in clear-lacquered or white-stained finishes and features a waterproof seat with a fixed or removable cover. As an option, you can also choose a custom stain or any color to tailor the chair to your seating arrangemant.
Alma is a favorite in several invironments thanks to its versatility, durability and charm.

The chair has been tested to support a higher user weight of up to 160 kg. Alma is upholstered with 100% recycled polyester fabric as standard on the seat, other fabric options are also available.

For more information please visit our webpage: https://inoff.se/en/products/alma_karmstol/

Product specification

This declaration is valid for Alma Armchair in solid birch and clear laquer with the fabric Moore-ReTHiNK-39846, a 100% post-consumer recycled polyester.

In this declaration you can find the following variants:
Alma Chair
Alma Armchair
Alma Armchair XL
Alma Forward Pointing
Wheels for Alma

All variants in clear laquered birch or white stained birch.
The table on page 11 of this declaration provides the key environmental indicators for the other models within the product series.

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Glue for wood	0,035	0,47	0.00	0.00
Paint, water-based	0,20	2,72	0.00	0.00
Plastic - Nylon (PA)	0,010	0,13	0.00	0.00
Polyester textile	0,12	1,63	0.00	0.00
Wood - Solid beech/birch	4,56	62,16	0.00	0.00
Metal - Steel	0,12	1,63	0.00	0.00
Plastic - Polyurethane (PUR)	0,13	1,77	0.00	0.00
Textile - Recycled polyester	0,12	1,63	0,12	100.00
Wood - Plywood	2,040	27,81	0.00	0.00
Total	7,33	100,00	0,12	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0,23	19,56	0,00	0,00
Packaging - Plastic	0,03	2,21	0,00	0,00
Recycled cardboard	0,92	78,23	0,92	100,00
Total incl. packaging	8,51	100,00	1,04	

Technical data:

Volume 0,42 m^3 (including packaging and two chairs in one box)

Total weight 7 kg (packaging exkluded)
Gross weight 8,5 kg (packaging included and one chair)

Total height 88 cm
Total width 55 cm
Total depth 53 cm

Seat height 47 cm
Seat width 43 cm
Seat depth 46,5 cm

Examples of additional options:
Extra Seat cover
Back cusion
Chair connectors
Wheels on front legs
Acoustic panels

Fulfilled technical standards:
EN 16139:2013 Furniture – Strength, durability and safety – Requirements for non-domestic seating.

Fulfilled fire requirements, for upholstered variants:
EN 1021-1 Assessment of the ignitability of upholstered furniture – Part 1: Ignition source smouldering cigarette, with Möbelfakta certified fabrics,
EN 1021-2 Assessment of the ignitability of upholstered furniture – Part 2: Ignition source match flame equivalent, with Möbelfakta certified fabrics.

Alma is certified according to Möbelfakta
https://www.mobelfakta.se/Details.html?lng=sv&id=1879

For more detailed information, certificats and CAD library follow link below:
https://inoff.se/downloads-2/

Market:

Mainly Europe but available world wide.

Reference service life, product

15 Years (5 years warranty)

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs Alma Armchair

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.

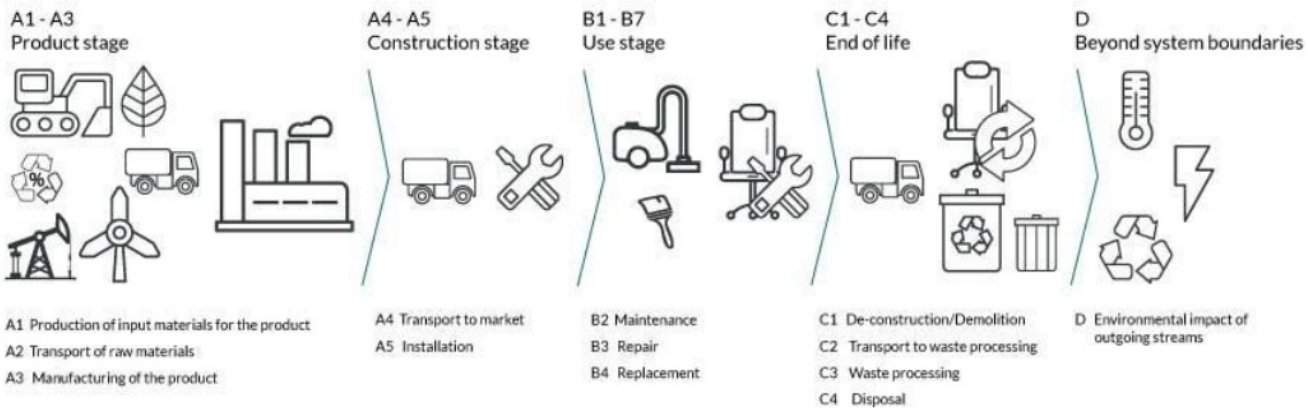
Our factory utilizes waste from wood production to not only heat the facility but also power the timber drying kilns, ensuring an eco-friendly and efficient process.
Furthermore, our offices and warehouse are powered by electricity from renewable sources.

Materials	Source	Data quality	Year
Glue for wood	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Paint, water-based	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Polyester textile	ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Textile - Recycled polyester	ReTHiNK-39846	EPD	2023
Wood - Plywood	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:



Additional technical information:

Proper care ensures your product lasts longer—follow our care instructions for the best results and a longer product life: https://inoff.se/wp-content/uploads/2020/05/skotselrad-och-avfallshantering.pdf

At inoff we prioritize sustainability and hold certifications that demonstrate its commitment to environmental stewardship and high quality.

Möbelfakta Certifications:
Our products comply with the standards set by Möbelfakta, a certification system for furniture. Möbelfakta assesses products based on criteria like quality, environmental impact, and social responsibility, guaranteeing that certified products adhere to strict sustainability and performance standards.

Environmental Management System (ISO 14001):
At inoff, we follow the environmental management system and comply with ISO 14001 standards. This certification demonstrates the company's commitment to reducing its environmental impact by actively identifying, managing, and minimizing its ecological footprint at every stage.

LCA: Scenarios and additional technical information

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

It is most likely that the seat cover will need to be washed, and the furniture wiped with a dry or damp cloth. In cases of heavy wear, the seat cover might need to be replaced, If so, inoff can assist you with this. Further more it is good to check tightness of screws at least once a year.

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 %	320	0,034	l/tkm	10,88
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	300	0,043	l/tkm	12,90
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	142	0,043	l/tkm	6,11

Assembly (A5)	Unit	Value			
Waste, packaging, cardboard, 100 % recycled, to average treatment (kg)	kg	0,92			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0,23			
Waste, packaging, plastic film (LDPE), to average treatment - A5 (kg)	kg	0,0070			
Waste, packaging, plastic tape, to average treatment (kg)	kg	0,019			

Maintenance (B2)	Unit	Value			
Water, tap water (kg)	kg	10.00			
Electricity, Sweden (kWh)	kWh	1,50			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 3.5-7.5 tonnes, EURO 6 (km)	19,7 %	85	0,110	l/tkm	9,35

Waste processing (C3)	Unit	Value			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	6,60			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	0,13			
Waste, textile, for incineration (kg)	kg	0,12			
Waste treatment per kg Textile, incineration with fly ash extraction (kg)	kg	0,12			
Waste, materials to recycling (kg)	kg	0,040			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	0,12			
Waste treatment per kg Hazardous waste, incineration (kg)	kg	0,035			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,010			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0,075			
Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg)	kg	0,0049			
Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg)	kg	0,0060			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	0,079			
Landfilling of ashes from incineration of Hazardous waste, from incineration (kg)	kg	0,0066			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg)	kg	0,00034			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	4,89			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	74,083			
Substitution of primary steel with net scrap (kg)	kg	0,040			

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	6,71E+00	9,14E-01	1,97E+00	8,59E-02	0
	GWP-fossil	kg CO_2 -eq	1,90E+01	9,14E-01	2,07E-02	7,94E-02	0
	GWP-biogenic	kg CO_2 -eq	-1,26E+01	3,32E-04	1,95E+00	1,56E-03	0
	GWP-luluc	kg CO_2 -eq	3,17E-01	4,05E-04	6,31E-06	4,94E-03	0
	ODP	kg CFC11 -eq	1,87E-06	1,99E-07	4,05E-09	3,75E-08	0
	AP	mol H+ -eq	1,19E-01	1,16E-02	9,06E-05	5,14E-04	0
	EP-FreshWater	kg P -eq	1,77E-03	6,05E-06	1,57E-07	5,41E-06	0
	EP-Marine	kg N -eq	1,97E-02	2,79E-03	3,15E-05	8,74E-05	0
	EP-Terrestial	mol N -eq	2,21E-01	3,11E-02	3,25E-04	1,15E-03	0
	POCP	kg NMVOC -eq	6,29E-02	8,52E-03	9,37E-05	2,64E-04	0
	ADP-minerals&metals[1]	kg Sb-eq	2,21E-04	1,90E-05	4,64E-07	3,13E-06	0
	ADP-fossil[1]	MJ	3,63E+02	1,31E+01	2,69E-01	8,96E+00	0
	WDP[1]	m^3	4,67E+03	9,73E+00	3,60E-01	9,04E+02	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	0	0	3,72E-01	1,17E+01	7,44E-03	-4,90E-01
	GWP-fossil	kg CO_2 -eq	0	0	3,71E-01	6,23E-01	7,44E-03	-4,74E-01
	GWP-biogenic	kg CO_2 -eq	0	0	2,04E-04	1,10E+01	4,52E-06	-9,12E-04
	GWP-luluc	kg CO_2 -eq	0	0	2,07E-04	3,66E-05	1,13E-06	-1,48E-02
	ODP	kg CFC11 -eq	0	0	7,96E-08	1,94E-08	8,36E-10	-3,13E-02
	AP	mol H+ -eq	0	0	1,09E-03	1,80E-03	2,54E-05	-3,76E-03
	EP-FreshWater	kg P -eq	0	0	4,17E-06	3,47E-06	8,58E-08	-4,09E-05
	EP-Marine	kg N -eq	0	0	1,94E-04	8,72E-04	7,95E-06	-1,20E-03
	EP-Terrestial	mol N -eq	0	0	2,19E-03	8,89E-03	9,01E-05	-1,30E-02
	POCP	kg NMVOC -eq	0	0	8,41E-04	2,16E-03	2,53E-05	-3,67E-03
	ADP-minerals&metals[1]	kg Sb-eq	0	0	1,83E-05	7,26E-07	4,24E-08	-5,05E-06
	ADP-fossil[1]	MJ	0	0	5,50E+00	1,26E+00	6,90E-02	-6,52E+00
	WDP[1]	m^3	0	0	8,55E+00	3,36E+00	7,24E-01	-7,42E+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	1,39E-06	4,58E-08	1,35E-09	3,73E-09	0
	IRP[2]	kgBq U235 -eq	2,65E+00	5,71E-02	1,15E-03	3,05E-01	0
	ETP-fw[1]	CTUe	5,40E+02	9,06E+00	3,55E-01	4,76E+00	0
	HTP-c[1]	CTUh	3,05E-08	0,00E+00	1,00E-11	1,45E-10	0
	HTP-nc[1]	CTUh	3,09E-07	1,02E-08	4,44E-10	3,46E-09	0
	SQP[1]	dimensionless	9,37E+02	6,98E+00	1,89E-01	3,96E+00	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	1,74E-08	1,50E-08	3,25E-10	-2,18E-07
	IRP[2]	kgBq U235 -eq	0	0	2,41E-02	3,17E-03	3,21E-04	-3,91E-02
	ETP-fw[1]	CTUe	0	0	4,68E+00	4,00E+00	1,12E-01	-3,59E+01
	HTP-c[1]	CTUh	0	0	0,00E+00	3,46E-10	5,00E-12	-8,27E-10
	HTP-nc[1]	CTUh	0	0	5,06E-09	1,32E-08	1,99E-10	-2,73E-08
	SQP[1]	dimensionless	0	0	2,71E+00	2,62E-01	1,93E-01	-4,11E+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	2,45E+02	1,57E-01	4,50E-03	4,29E+00	0
	PERM	MJ	1,22E+02	0,00E+00	-9,04E+00	0,00E+00	0
	PERT	MJ	3,67E+02	1,57E-01	-9,04E+00	4,29E+00	0
	PENRE	MJ	3,55E+02	1,31E+01	2,69E-01	8,98E+00	0
	PENRM	MJ	1,13E+01	0,00E+00	-9,92E-01	0,00E+00	0
	PENRT	MJ	3,66E+02	1,31E+01	-7,24E-01	8,98E+00	0
	SM	kg	1,04E+00	0,00E+00	0,00E+00	0,00E+00	0
	RSF	MJ	3,85E+00	5,36E-03	1,48E-04	1,72E-02	0
	NRSF	MJ	9,38E-01	1,70E-02	6,01E-04	5,30E-02	0
	FW	m^3	3,29E-01	1,18E-03	1,27E-04	1,98E-02	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	PERE	MJ	0	0	1,18E-01	8,75E-02	3,96E-03	-3,80E+01
	PERM	MJ	0	0	0,00E+00	-1,13E+02	0,00E+00	0,00E+00
	PERT	MJ	0	0	1,18E-01	-1,13E+02	3,96E-03	-3,80E+01
	PENRE	MJ	0	0	5,50E+00	1,27E+00	6,90E-02	-6,52E+00
	PENRM	MJ	0	0	0,00E+00	-1,03E+01	0,00E+00	0,00E+00
	PENRT	MJ	0	0	5,50E+00	-9,06E+00	6,90E-02	-6,52E+00
	SM	kg	0	0	0,00E+00	1,07E-03	0,00E+00	0,00E+00
	RSF	MJ	0	0	4,28E-03	1,99E-03	8,80E-05	-5,03E-03
	NRSF	MJ	0	0	1,58E-02	2,37E-04	2,46E-02	-2,20E+00
	FW	m^3	0	0	7,80E-04	2,40E-03	7,46E-05	-4,58E-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	2,02E-01	6,34E-04	0,00E+00	4,77E-04	0
	NHWD	kg	2,55E+00	4,60E-01	1,18E+00	3,01E-02	0
	RWD	kg	2,23E-03	9,00E-05	0,00E+00	1,34E-04	0

Indicator		Unit	B4	C1	C2	C3	C4	D
	HWD	kg	0	0	3,45E-04	5,02E-03	1,38E-01	-5,22E-04
	NHWD	kg	0	0	1,67E-01	3,90E-02	3,18E-02	-1,63E-01
	RWD	kg	0	0	3,65E-05	2,26E-07	3,02E-07	-3,20E-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	7,98E-01	0,00E+00	1,08E+00	0,00E+00	0
	MER	kg	1,30E+00	0,00E+00	2,87E-06	0,00E+00	0
	EEE	MJ	8,78E-01	0,00E+00	6,58E-02	0,00E+00	0
	EET	MJ	1,33E+01	0,00E+00	9,95E-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	4,08E-02	0,00E+00	0,00E+00
	MER	kg	0	0	0,00E+00	7,02E+00	0,00E+00	0,00E+00
	EEE	MJ	0	0	0,00E+00	4,98E+00	0,00E+00	0,00E+00
	EET	MJ	0	0	0,00E+00	7,54E+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	2,96E+00
Biogenic carbon content in accompanying packaging	kg C	5,32E-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	Source	Amount	Unit
Electricity, European average (kWh)	ecoinvent 3.6	428,03	g CO2-eq/kWh
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

Additional Environmental Information

Key Environmental Indicators

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO_2 -eq	6,71	0,91	21,72	21,23
Total energy consumption	MJ	604,42	13,30	638,42	591,73
Amount of recycled materials	%	12,22			

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	2,04E+01	9,14E-01	2,07E-02	8,58E-02	0

Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	0	0	3,72E-01	8,20E-01	7,97E-03	-5,06E-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 (%)**
Alma Chair	7,75	4,95	520,32	12,38
Alma Armchair XL	9,41	8,16	687,91	12,07
Alma Armchair FP	8,50	7,40	616,06	12,19
Wheels	0,24	4,97	52,96	4,42

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.

epd-norge Global program operatør	**Program operator and publisher** The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: e-mail: web:	+47 977 22 020 post@epd-norge.no www.epd-norge.no
inoff.	**Owner of the declaration:** inoff inred ab Lilla garnisonsgatan 36, 254 67 Helsingborg, Sweden	Phone: e-mail: web:	+4672-7033119 vesna.paun@inoff.se
LCA.no	**Author of the Life Cycle Assessment** LCA.no AS Dokka 6A, 1671 Kråkerøy, Norway	Phone: e-mail: web:	+47 916 50 916 post@lca.no www.lca.no
LCA.no	**Developer of EPD generator** LCA.no AS Dokka 6A, 1671 Kråkerøy, Norway	Phone: e-mail: web:	+47 916 50 916 post@lca.no www.lca.no
ECO PLATFORM EPD VERIFIED	ECO Platform ECO Portal	web: web:	www.eco-platform.org ECO Portal