

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

711 stol, Valnøtt, Lakkert.





711 stol, Valnøtt, Lakkert.

Owner of the declaration:

Declared unit:

1 pcs

Hjelle AS

Product:

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-4999-4342-EN

Registration number:NEPD-4999-4342-EN

Issue date: 19.09.2023

Valid to: 19.09.2028

EPD Software:

LCA.no EPD generator ID: 72681

The Norwegian EPD Foundation



General information

Product

711 stol, Valnøtt, Lakkert.

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway The Norwegian EPD Foundation Phone: +47 23 08 80 00

web: post@epd-norge.no

Declaration number: NEPD-4999-4342-EN

This declaration is based on Product Category Rules:

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

Statement of liability:

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

Declared unit:

1 pcs 711 stol, Valnøtt, Lakkert.

Declared unit (cradle to gate) with option:

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

Functional unit:

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:

Hjelle AS Contact person: Jahn Marius Larsen Phone: 92048833 e-mail: jahn@hjelle.no

Manufacturer:

Hielle AS

Place of production:

Hjelle AS Vikøyra Industriområde 3 6230 Sykkylven, Norway

Management system:

Organisation no:

912684261

Issue date: 19.09.2023

Valid to: 19.09.2028

Year of study:

2021

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: Jahn Marius Larsen

Reviewer of company-specific input data and EPD: Elisabeth Hurlen

Approved:

Håkon Hauan, CEO EPD-Norge



Product

Product description:

Fredrik A. Kayser foremost designs are characterised by a Danish inspired and Scandinavian tone. Among them is the armchair MODELL 711. Despite having clear references to the mid-century design era, the chair stands out as a timeless piece. MODELL 711 is just as relevant today as it was when it was designed, and its Nordic aesthetic makes it easily adapt to modern architecture. MODELL 711 stands out as a Norwegian design icon that will lasts for years to come.

Product specification

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Wood - Solid walnut	4,20	42,99	0,00	0,00
Leather	1,17	11,98	0,00	0,00
Plastic - Polyurethane (PUR)	0,80	8,19	0,00	0,00
Plastic - Polystyrene expandable (EPS)	0,70	7,16	0,00	0,00
Wood - Solid pine	2,90	29,68	0,00	0,00
Total	9,77		0,00	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	3,25	100,00	1,17	36,00
Total incl. packaging	13,02		1,17	

Technical data:

Width: 70 cm Depth: 74 cm Height: 75 cm Seat Height: 42 cm

Weight: 10 kg

Market: Worldwide

Reference service life, product

15 years

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs 711 stol, Valnøtt, Lakkert.

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:

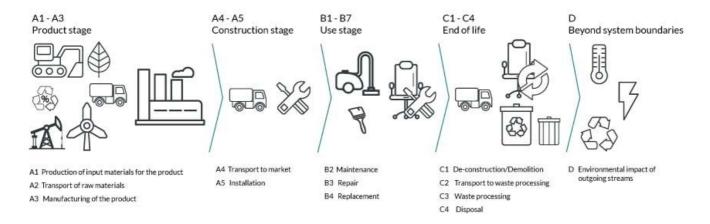
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other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

Materials	Source	Data quality	Year
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Plastic - Polystyrene expandable (EPS)	ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Leather	Modified ecoinvent 3.6	Database	2019
Wood - Solid pine	modified ecoinvent 3.6	Database	2019
Wood - Solid walnut	modified ecoinvent 3.6	Database	2019

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

Р	roduct stag	ge		uction on 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	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
Χ	Χ	Χ	Χ	Χ	MND	X	Χ	Χ	MND	MND	MND	Χ	Χ	X	Χ	X

System boundary:



Additional technical information:

Transportation to an average customer in Oslo is 600km (A4: average European lorry > 32 tonnes)



LCA: Scenarios and additional technical information

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

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, EURO 6 (km)	53,3 %	600	0,023	l/tkm	13,80
Assembly (A5)	Unit	Value			
Waste, packaging, corrugated board box, to average treatment (kg)	kg	3,25			
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)	Unit	Value			
Waste treatment per kg Expanded Polystyrene (EPS), incineration - C3 (kg)	kg	0,70			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	1,17			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	0,80			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	7,10			
Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of expanded polystyrene (EPS), process per kg ashes and residues - C4 (kg)	kg	0,03			
Landfilling of ashes from incineration of Non- hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,28			
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	0,08			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	7,82			
Substitution of thermal energy, district heating, in Norway (MJ)	МЈ	118,35			

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LCA: Results

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

Environme	ental impact								
	Indicator		Unit		A1-A3	A4	A5	B2	В3
	GWP-total		kg CO ₂ -e	eq	1,39E+01	6,80E-01	5,57E+00	0	0
	GWP-fossil		kg CO ₂ -e	eq	2,08E+01	6,79E-01	5,26E-02	0	0
	GWP-biogenic		kg CO ₂ -eq		-7,71E+00	2,91E-04	5,52E+00	0	0
	GWP-Iuluc		kg CO ₂ -e	eq	7,89E-01	2,07E-04	1,74E-05	0	0
(3)	ODP		kg CFC11 -	-eq	1,15E-06	1,64E-07	1,11E-08	0	0
	AP		mol H+ -	eq	1,66E-01	2,19E-03	2,49E-04	0	0
	EP-FreshWater		kg P -eq	1	1,91E-03	5,41E-06	4,32E-07	0	0
	EP-Marine		kg N -ec	7	9,12E-02	4,79E-04	8,23E-05	0	0
	EP-Terrestial		mol N -e	eq	5,52E-01	5,34E-03	8,91E-04	0	0
	POCP		kg NMVOC	-eq	6,53E-02	2,10E-03	2,56E-04	0	0
	ADP-minerals&metals ¹		kg Sb -e	9	3,00E-04	1,21E-05	1,28E-06	0	0
	ADP-fossil ¹		MJ		2,73E+02	1,10E+01	7,35E-01	0	0
%	WDP ¹		m ³		3,46E+03	8,46E+00	9,32E-01	0	0
	WDI		m ²		3,40L+03	0,401100	3,322 01	O	Ü
	Indicator	Uni		B4	C1	C2	C3	C4	D
		Un kg CO ₂	it	B4 0			,		
	Indicator		it ₂ -eq		C1	C2	C3	C4	D
	Indicator GWP-total	kg CO ₂	it ₂ -eq ₂ -eq	0	C1 0	C2 1,81E-01	C3 1,89E+01	C4 8,45E-03	D -7,11E-01
	Indicator GWP-total GWP-fossil	kg CO ₂	it 2 -eq 2 -eq 2 -eq	0	C1 0	C2 1,81E-01 1,80E-01	C3 1,89E+01 7,20E+00	C4 8,45E-03 8,44E-03	D -7,11E-01 -6,86E-01
	Indicator GWP-total GWP-fossil GWP-biogenic	kg CO ₂ kg CO ₂ kg CO ₂	it 2 -eq 2 -eq 2 -eq 2 -eq	0 0	C1 0 0	C2 1,81E-01 1,80E-01 7,47E-05	C3 1,89E+01 7,20E+00 1,17E+01	C4 8,45E-03 8,44E-03 4,03E-06	D -7,11E-01 -6,86E-01 -1,42E-03
P P P P P P P P P P	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc	kg CO ₂ kg CO ₂ kg CO ₂	it 2 -eq 2 -eq 2 -eq 2 -eq 11 -eq	0 0 0	0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP	kg CO; kg CO; kg CO; kg CO;	it 2 -eq 2 -eq 2 -eq 2 -eq 11 -eq + -eq	0 0 0 0	C1 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP	kg CO; kg CO; kg CO; kg CO; kg CFC	it 2 -eq 2 -eq 2 -eq 11 -eq + -eq	0 0 0 0 0	C1 0 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08 5,19E-04	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08 3,60E-03	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09 3,21E-05	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02 -5,65E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater	kg CO; kg CO; kg CO; kg CFC² mol H-	it 2 -eq 2 -eq 2 -eq 11 -eq + -eq -eq	0 0 0 0 0 0	C1 0 0 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08 5,19E-04 1,44E-06	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08 3,60E-03 4,02E-06	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09 3,21E-05 1,12E-07	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02 -5,65E-03 -6,10E-05
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC ² mol H- kg P	it 2 -eq 2 -eq 2 -eq 11 -eq -eq -eq	0 0 0 0 0 0	C1 0 0 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08 5,19E-04 1,44E-06 1,03E-04	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08 3,60E-03 4,02E-06 1,84E-03	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09 3,21E-05 1,12E-07 1,02E-05	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02 -5,65E-03 -6,10E-05 -1,85E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	kg CO; kg CO; kg CO; kg CFC* mol H- kg P· kg N	it 2 -eq 2 -eq 2 -eq 11 -eq -eq -eq 1 -eq 0 -eq	0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08 5,19E-04 1,44E-06 1,03E-04 1,15E-03	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08 3,60E-03 4,02E-06 1,84E-03 1,83E-02	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09 3,21E-05 1,12E-07 1,02E-05 1,16E-04	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02 -5,65E-03 -6,10E-05 -1,85E-03 -2,00E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	kg CO; kg CO; kg CO; kg CFC* mol H- kg P* kg N mol N	it 2 -eq 2 -eq 2 -eq 11 -eq + -eq -eq 0C -eq -eq	0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0 0	C2 1,81E-01 1,80E-01 7,47E-05 6,42E-05 4,09E-08 5,19E-04 1,44E-06 1,03E-04 1,15E-03 4,40E-04	C3 1,89E+01 7,20E+00 1,17E+01 7,38E-05 3,75E-08 3,60E-03 4,02E-06 1,84E-03 1,83E-02 4,40E-03	C4 8,45E-03 8,44E-03 4,03E-06 1,39E-06 1,05E-09 3,21E-05 1,12E-07 1,02E-05 1,16E-04 3,22E-05	D -7,11E-01 -6,86E-01 -1,42E-03 -2,36E-02 -5,00E-02 -5,65E-03 -6,10E-05 -1,85E-03 -2,00E-02 -5,51E-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

Remarks to environmental impacts

[&]quot;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

	Indicator	Unit		A1-A3	A4	A5	B2	В3
	PM	Disease incidence		1,92E-06	6,24E-08	3,67E-09	0	0
	IRP ²	kgBq U235 -eq		8,17E-01	4,82E-02	3,15E-03	0	0
\$	ETP-fw ¹	CTUe	CTUe		8,07E+00	9,81E-01	0	0
46.* *****	HTP-c ¹	CTUh		1,13E-07	0,00E+00	2,90E-11	0	0
4° <u>E</u>	HTP-nc ¹	CTUh		1,36E-05	7,80E-09	1,23E-09	0	0
	SQP ¹	dimensionless		-3,57E+03	1,26E+01	4,93E-01	0	0
Inc	dicator	Unit	B4	C1	C2	C3	C4	D

I	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	1,11E-08	2,05E-08	4,25E-10	-3,43E-07
	IRP ²	kgBq U235 -eq	0	0	1,19E-02	4,69E-03	4,00E-04	-6,27E-02
3	ETP-fw ¹	CTUe	0	0	2,02E+00	1,44E+01	1,48E-01	-5,34E+01
40.* *** <u>*</u>	HTP-c ¹	CTUh	0	0	0,00E+00	7,01E-10	7,00E-12	-9,76E-10
48° E	HTP-nc ¹	CTUh	0	0	2,21E-09	2,65E-08	2,77E-10	-5,12E-08
	SQP ¹	dimensionless	0	0	1,91E+00	3,04E-01	2,34E-01	-6,56E+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)

[&]quot;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.

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Resource use								
	Indicator		Unit	A1-A3	A4	A5	B2	В3
	PERE		MJ	3,33E+02	1,39E-01	1,21E-02	0	0
	PERM		MJ	1,26E+02	0,00E+00	-2,67E+01	0	0
Ţ,	PERT		MJ	4,59E+02	1,39E-01	-2,66E+01	0	0
	PENRE		MJ	2,28E+02	1,10E+01	7,36E-01	0	0
40	PENRM		MJ	5,16E+01	0,00E+00	0,00E+00	0	0
IA	PENRT		МЈ	2,79E+02	1,10E+01	7,36E-01	0	0
<u></u>	SM		kg 1		0,00E+00	0,00E+00	0	0
2	RSF		МЈ	3,40E-01	4,86E-03	4,02E-04	0	0
	NRSF		MJ	3,88E-01	1,63E-02	1,66E-03	0	0
(%)	FW		m ³	1,81E+00	1,26E-03	3,47E-04	0	0
	ndicator	Unit	B4	C1				
75.R			D-4	CI	C2	C3	C4	D
	PERE	МЈ	0	0	3,91E-02	9,60E-02	C4 4,42E-03	-6,06E+01
1	PERE PERM							
		МЛ	0	0	3,91E-02	9,60E-02	4,42E-03	-6,06E+01
2	PERM	MJ	0	0	3,91E-02 0,00E+00	9,60E-02 -9,93E+01	4,42E-03 0,00E+00	-6,06E+01 0,00E+00
i i	PERM PERT	MJ MJ	0 0 0	0 0	3,91E-02 0,00E+00 3,91E-02	9,60E-02 -9,93E+01 -9,92E+01	4,42E-03 0,00E+00 4,42E-03	-6,06E+01 0,00E+00 -6,06E+01
I F	PERM PERT PENRE	мл мл	0 0 0 0	0 0 0	3,91E-02 0,00E+00 3,91E-02 2,73E+00	9,60E-02 -9,93E+01 -9,92E+01 2,27E+00	4,42E-03 0,00E+00 4,42E-03 8,65E-02	-6,06E+01 0,00E+00 -6,06E+01 -9,81E+00
I I I	PERM PERT PENRE PENRM	мл мл мл мл	0 0 0 0	0 0 0 0	3,91E-02 0,00E+00 3,91E-02 2,73E+00 0,00E+00	9,60E-02 -9,93E+01 -9,92E+01 2,27E+00 -5,16E+01	4,42E-03 0,00E+00 4,42E-03 8,65E-02 0,00E+00	-6,06E+01 0,00E+00 -6,06E+01 -9,81E+00 0,00E+00
	PERM PERT PENRE PENRM PENRT	мл мл мл мл	0 0 0 0 0	0 0 0 0 0	3,91E-02 0,00E+00 3,91E-02 2,73E+00 0,00E+00 2,73E+00	9,60E-02 -9,93E+01 -9,92E+01 2,27E+00 -5,16E+01 -4,93E+01	4,42E-03 0,00E+00 4,42E-03 8,65E-02 0,00E+00 8,65E-02	-6,06E+01 0,00E+00 -6,06E+01 -9,81E+00 0,00E+00 -9,81E+00
	PERM PERT PENRE PENRM PENRT SM	мл мл мл мл мл мл кд	0 0 0 0 0 0	0 0 0 0 0	3,91E-02 0,00E+00 3,91E-02 2,73E+00 0,00E+00 2,73E+00 0,00E+00	9,60E-02 -9,93E+01 -9,92E+01 2,27E+00 -5,16E+01 -4,93E+01 0,00E+00	4,42E-03 0,00E+00 4,42E-03 8,65E-02 0,00E+00 8,65E-02 0,00E+00	-6,06E+01 0,00E+00 -6,06E+01 -9,81E+00 0,00E+00 -9,81E+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 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

II Hjelle

End of life - Waste									
	Indicator		Uı	nit	A1-A3	A4	A5	B2	В3
	HWD		kg		7,04E-01	6,04E-04	0,00E+00	0	0
Ū	NHWD		k	g	3,13E+00	9,59E-01	3,25E+00	0	0
8	RWD		k	g	7,23E-04	7,53E-05	0,00E+00	0	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
	HWD		kg	0	0	1,41E-04	0,00E+00	3,41E-01	-4,61E-04
Ū	NHWD		kg	0	0	1,33E-01	1,17E+00	9,85E-02	-2,32E-01
3	RWD		kg	0	0	1,86E-05	0,00E+00	8,17E-07	-5,14E-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								
Ind	icator	Un	it	A1-A3	A4	A5	B2	В3
@▷	CRU	kç	kg		0,00E+00	0,00E+00	0	0
&▷	MFR		kg		0,00E+00	3,02E+00	0	0
DF	D∀ MER			1,89E-05	0,00E+00	2,27E-01	0	0
50	EEE	М	J	1,79E+00	0,00E+00	1,86E-01	0	0
D	EET	М	J	2,71E+01	0,00E+00	2,81E+00	0	0
Indicato	or	Unit	B4	C1	C2	C3	C4	D
Ø▷	CRU	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
\$>	MFR	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	9,77E+00	0,00E+00	0,00E+00
50	EEE	MJ	0	0	0,00E+00	7,13E+00	0,00E+00	0,00E+00
DØ	EET	МЈ	0	0	0,00E+00	1,08E+02	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	3,19E+00					
Biogenic carbon content in accompanying packaging	kg C	1,50E+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	Data source	Amount	Unit
Electricity, Norway (kWh)	ecoinvent 3.6	24,33	g CO2-eg/kWh

Dangerous substances

No substances given by the REACH Candidate list or the Norwegian priority list are intentionally added to the product.

Indoor environment

Our furniture does not contain any substrates that affect indoor climate.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit	Unit		A4	A5	B2	В3
GWPIOBC	kg CO ₂ -eq	kg CO ₂ -eq		6,80E-01	0,00E+00	0	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	0	0	1,81E-01	5,93E+00	1,11E-02	-7,01E-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.

Key Environmental Indicators

Indicator	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO ₂ -eq	13,87	0,68	39,22	38,51
Total energy consumption	MJ	561,56	11,20	578,77	504,76
Amount of recycled materials	%	8,97			

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
© epd-norway	The Norwegian EPD Foundation	e-mail: post@epd-norge.no
Global Program Operator	Post Box 5250 Majorstuen, 0303 Oslo, Norway	web: www.epd-norge.no
	Owner of the declaration:	Phone: 92048833
II Hjelle	Hjelle AS	e-mail: jahn@hjelle.no
:	Vikøyra Industriområde 3, 6230 Sykkylven	web: www.hjelle.no
	Author of the Life Cycle Assessment	Phone: +47 916 50 916
(LCA)	LCA.no AS	e-mail: post@lca.no
no	Dokka 6B, 1671	web: www.lca.no
	Developer of EPD generator	Phone: +47 916 50 916
(LCA)	LCA.no AS	e-mail: post@lca.no
no	Dokka 6B,1671 Kråkerøy	web: www.lca.no
ECO PLATFORM	ECO Platform	web: www.eco-platform.org
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