

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

## Kokon™



## Varier.

The Norwegian EPD Foundation

**Owner of the declaration:** Varier Furniture AS **Product:** 

Declared unit: 1 kg

Kokon™

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-5771-5061-EN

**Registration number:** 

NEPD-5771-5061-EN

Issue date: 11.01.2024

Valid to: 11.01.2029

EPD Software: LCA.no EPD generator ID: 65164

### **General information**

Product

Kokon™

#### 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-5771-5061-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 kg Kokon™

#### 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:

Varier Furniture AS Contact person: Michal Klecz Phone: +47 70 24 43 50 e-mail: info@varierfurniture.com

Manufacturer:

Varier Furniture AS

#### Place of production:

Varier Furniture AS Drammensveien 130 0277 Oslo, Norway

Management system:

### Organisation no:

NO 989 804 804

Issue date: 11.01.2024

Valid to: 11.01.2029

#### Year of study:

2022

#### **Comparability:**

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

#### Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway.

Developer of EPD: Michal Klecz

Reviewer of company-specific input data and EPD: Joachim Botnen

**Approved:** 

Håkon Hauan, CEO EPD-Norge



### Product

#### **Product description:**

Kokon<sup>M</sup> has a modern spirit that is unlike other traditional recliners. It supports your body while incorporating a gentle tilting function in the base. Thanks to its intuitive design, Kokon<sup>M</sup> can be locked into specific desired angles and can be complemented with a footrest for deeper relaxation and comfort. Kokon<sup>M</sup> is available in a range of different upholstery fabrics and an aluminum cross base in either chrome or a matte black finish. You can choose between five different colors for the trio of stitches that adorn the back of Kokon<sup>M</sup>.

#### **Product specification**

Designed by Thomas Pedersen in 2013. More information on Kokon here: www.varierfurniture.com/collection/kokon

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Aluminium	1,65	7,73	0,00	0,00
Metal - Steel	13,98	65,50	0,00	0,00
Plastic - Nylon (PA)	0,04	0,19	0,00	0,00
Plastic - Polystyrene expandable (EPS)	0,02	0,10	0,00	0,00
Plastic - Polyurethane (PUR)	4,00	18,74	0,00	0,00
Powder coating	0,03	0,15	0,00	0,00
Rubber, synthetic	0,02	0,09	0,00	0,00
Textile - Cotton	1,60	7,50	0,00	0,00
Total	21,34		0,00	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	9,24	94,20	3,33	36,00
Packaging - Plastic	0,57	5,80	0,00	0,00
Total incl. packaging	31,15		3,33	

#### Technical data:

Chair Measurement: Height: 110 cm Width: 73 cm Depth: 83 cm Seat height: 41 cm

Box Measurement: W: 74,5cm L: 63cm H: 110,7cm

#### Market:

Global, mainly Europe.

#### **Reference service life, product**

Longevity is incorporated into Varier's core values. Upholstery and cushions can be replaced over time and Varier products can be passed on to the next generation. Varier offers an extended warranty of 7 years on wooden parts and 5 years on mechanisms. Lifetime is usually longer than 15 years.

Reference service life, building

#### **LCA: Calculation rules**

Declared unit:

1 kg Kokon™

#### 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:**

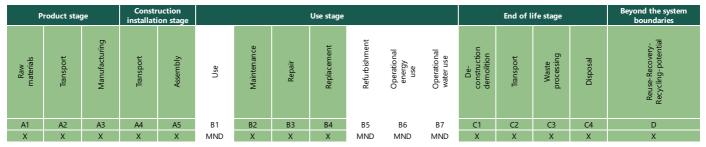
The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

#### Data quality:

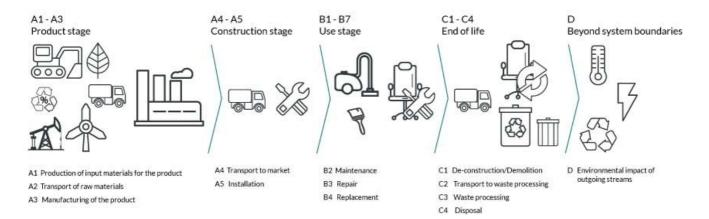
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other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

Materials	Source	Data quality	Year
Metal - Aluminium	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Plastic - Polystyrene expandable (EPS)	ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Powder coating	Ecoinvent 3.6	Database	2019
Rubber, synthetic	ecoinvent 3.6	Database	2019
Textile - Cotton	ecoinvent 3.6	Database	2019

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



#### System boundary:



#### Additional technical information:

### 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, 16-32 tonnes, EURO 6 (km)	36,7 %	1250	0,043	l/tkm	53,75
Assembly (A5)	Unit	Value			
Waste, packaging, corrugated board box, to average treatment (kg)	kg	8,64			
Waste, packaging, plastic film (LDPE), to average treatment - A5 (kg)	kg	0, 19			
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 %	55	0,043	l/tkm	2,37
Waste processing (C3)	Unit	Value			
Waste treatment per kg Expanded Polystyrene (EPS), incineration - C3 (kg)	kg	0,02			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,03			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,04			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	4,00			
Waste treatment per kg Rubber, municipal incineration with fly ash extraction (kg)	kg	0,02			
Waste treatment per kg Scrap aluminium, incineration with fly ash extraction (kg)	kg	1,65			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	13,98			
Waste treatment per kg Textile, incineration with fly ash extraction (kg)	kg	1,60			
Waste, materials to recycling (kg)	kg	4,91			
Disposal (C4)	Unit	Value			
Landfilling of ashes and residues from incineration of Scrap aluminium (kg)	kg	1,48			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	9,24			
Landfilling of ashes from incineration of expanded polystyrene (EPS), process per kg ashes and residues - C4 (kg)	kg	0,00			
Landfilling of ashes from incineration of Non- hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,01			
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 Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4	kg kg	0,00 0,15			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber,					
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Textile,	kg	0,15			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Textile,	kg	0,15 0,00			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg) Benefits and loads beyond the system boundaries (D)	kg kg kg	0,15 0,00 0,08			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg) Benefits and loads beyond the system boundaries (D) Substitution of electricity, in Norway (MJ) Substitution of primary aluminium with net scrap	kg kg kg Unit	0,15 0,00 0,08 Value			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg) Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg) Benefits and loads beyond the system	kg kg kg Unit MJ	0,15 0,00 0,08 Value 7,21			

### 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
P	GWP-total	kg CO <sub>2</sub> ·	eq	1,34E+02	4,35E+00	1,48E+01	0	0
P	GWP-fossil	kg CO <sub>2</sub> -	kg CO <sub>2</sub> -eq		4,35E+00	1,55E-01	0	0
P	GWP-biogenic	kg CO <sub>2</sub> ·	eq	-1,65E+01	1,80E-03	1,47E+01	0	0
P	GWP-luluc	kg CO <sub>2</sub> ·	eq	1,66E+00	1,55E-03	4,73E-05	0	0
Ò	ODP	kg CFC11	-eq	8,09E-06	9,85E-07	3,04E-08	0	0
Ê	AP	mol H+	-eq	1,01E+00	1,25E-02	6,80E-04	0	0
÷	EP-FreshWater	kg P -e	q	1,62E-02	3,47E-05	1,18E-06	0	0
÷	EP-Marine	kg N -e	р	4,77E-01	2,47E-03	2,36E-04	0	0
	EP-Terrestial	mol N -	eq	2,06E+00	2,76E-02	2,43E-03	0	0
	POCP	kg NMVO	C -eq	5,31E-01	1,06E-02	7,03E-04	0	0
45D	ADP-minerals&metals <sup>1</sup>	kg Sb -	eq	2,95E-03	1,20E-04	3,48E-06	0	0
B	ADP-fossil <sup>1</sup>	MJ		1,81E+03	6,57E+01	2,02E+00	0	0
<b>%</b>	WDP <sup>1</sup>	m <sup>3</sup>		5,64E+03	6,36E+01	2,69E+00	0	0
	Indicator	Unit	B4	C1	C2	C3	C4	D
P	GWP-total	kg CO <sub>2</sub> -eq	0	0	1,91E-01	1.645.04		
P					1,512 01	1,61E+01	1,28E-01	-7,44E+00
U	GWP-fossil	kg CO <sub>2</sub> -eq	0	0	1,91E-01	1,61E+01 1,11E+01	1,28E-01 1,28E-01	-7,44E+00 -7,37E+00
(P)	GWP-fossil GWP-biogenic	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0					
				0	1,91E-01	1,11E+01	1,28E-01	-7,37E+00
P	GWP-biogenic	kg CO <sub>2</sub> -eq	0	0 0	1,91E-01 7,92E-05	1,11E+01 4,90E+00	1,28E-01 1,04E-04	-7,37E+00 -1,12E-02
P	GWP-biogenic GWP-luluc	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0	0 0 0	1,91E-01 7,92E-05 6,81E-05	1,11E+01 4,90E+00 8,50E-05	1,28E-01 1,04E-04 3,73E-05	-7,37E+00 -1,12E-02 -5,30E-02
P P Ö	GWP-biogenic GWP-luluc ODP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq	0 0 0	0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08	1,11E+01 4,90E+00 8,50E-05 6,20E-08	1,28E-01 1,04E-04 3,73E-05 3,78E-08	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02
P D D	GWP-biogenic GWP-luluc ODP AP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq	0 0 0 0	0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08 5,50E-04	1,11E+01 4,90E+00 8,50E-05 6,20E-08 1,01E-02	1,28E-01 1,04E-04 3,73E-05 3,78E-08 8,74E-04	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02 -4,15E-02
\$ (*) (*) (*) (*)	GWP-biogenic GWP-luluc ODP AP EP-FreshWater	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq	0 0 0 0 0	0 0 0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08 5,50E-04 1,53E-06	1,11E+01 4,90E+00 8,50E-05 6,20E-08 1,01E-02 5,75E-06	1,28E-01 1,04E-04 3,73E-05 3,78E-08 8,74E-04 1,31E-06	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02 -4,15E-02 -4,36E-04
	GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq	0 0 0 0 0 0	0 0 0 0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08 5,50E-04 1,53E-06 1,09E-04	1,11E+01 4,90E+00 8,50E-05 6,20E-08 1,01E-02 5,75E-06 5,57E-03	1,28E-01 1,04E-04 3,73E-05 3,78E-08 8,74E-04 1,31E-06 3,10E-04	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02 -4,15E-02 -4,36E-04 -8,37E-03
	GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08 5,50E-04 1,53E-06 1,09E-04 1,22E-03	1,11E+01 4,90E+00 8,50E-05 6,20E-08 1,01E-02 5,75E-06 5,57E-03 5,36E-02	1,28E-01 1,04E-04 3,73E-05 3,78E-08 8,74E-04 1,31E-06 3,10E-04 3,44E-03	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02 -4,15E-02 -4,36E-04 -8,37E-03 -8,76E-02
	GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq kg NMVOC -eq	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	1,91E-01 7,92E-05 6,81E-05 4,33E-08 5,50E-04 1,53E-06 1,09E-04 1,22E-03 4,66E-04	1,11E+01 4,90E+00 8,50E-05 6,20E-08 1,01E-02 5,75E-06 5,57E-03 5,36E-02 1,28E-02	1,28E-01 1,04E-04 3,73E-05 3,78E-08 8,74E-04 1,31E-06 3,10E-04 3,44E-03 9,88E-04	-7,37E+00 -1,12E-02 -5,30E-02 -4,61E-02 -4,15E-02 -4,36E-04 -8,37E-03 -8,76E-02 -3,61E-02

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	Unit		A4	A5	B2	B3
	PM	Disease incidence		1,09E-05	2,66E-07	1,01E-08	0	0
	IRP <sup>2</sup>	kgBq U235 -eq		3,78E+00	2,87E-01	8,64E-03	0	0
	ETP-fw <sup>1</sup>	CTUe		7,48E+03	4,87E+01	2,66E+00	0	0
	HTP-c <sup>1</sup>	CTUh		4,48E-07	0,00E+00	8,00E-11	0	0
48 E	HTP-nc <sup>1</sup>	CTUh		4,23E-06	5,32E-08	3,33E-09	0	0
è	SQP <sup>1</sup>	dimensionless	dimensionless		4,60E+01	1,42E+00	0	0
h	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	1,17E-08	5,78E-08	1,58E-08	-8,55E-07
()~() B	IRP <sup>2</sup>	kgBq U235 -eq	0	0	1,26E-02	8,87E-03	1,13E-02	-1,23E-01
	ETP-fw <sup>1</sup>	CTUe	0	0	2,14E+00	4,18E+01	1,76E+00	-3,63E+02
40.* ****	HTP-c <sup>1</sup>	CTUh	0	0	0,00E+00	1,42E-09	6,50E-11	-2,99E-08
8° E	HTP-nc <sup>1</sup>	CTUh	0	0	2,34E-09	3,61E-08	1,81E-09	4,54E-07
	SQP <sup>1</sup>	dimensionless	0	0	2,02E+00	6,64E-01	6,16E+00	-6,39E+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

\*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
i. T	PERE		MJ	1,96E+02	9,41E-01	3,37E-02	0	0
P	PERM		MJ	1,05E+02	0,00E+00	-7,08E+01	0	0
÷.	PERT		MJ	3,01E+02	9,41E-01	-7,08E+01	0	0
B	PENRE		MJ	1,66E+03	6,57E+01	2,02E+00	0	0
.Åa	PENRM		MJ	1,50E+02	0,00E+00	-8,03E+00	0	0
IA	PENRT		MJ	1,81E+03	6,57E+01	-6,01E+00	0	0
	SM		kg	3,45E+00	0,00E+00	0,00E+00	0	0
	RSF		MJ	8,57E-01	3,37E-02	1,11E-03	0	0
1. A A A A A A A A A A A A A A A A A A A	NRSF		MJ	1,72E+00	1,20E-01	4,51E-03	0	0
(%)	FW		m <sup>3</sup>	1,15E+01	7,03E-03	9,55E-04	0	0
	ndicator	Unit	: B4	C1	C2	C3	C4	D
्र	ndicator PERE	Unit MJ	: B4 0	C1 0	C2 4,14E-02	C3 1,58E-01	C4 5,54E-02	D -6,64E+01
i I	PERE	MJ	0	0	4,14E-02	1,58E-01	5,54E-02	-6,64E+01
	PERE	MJ	0	0	4,14E-02 0,00E+00	1,58E-01 -2,88E+01	5,54E-02 0,00E+00	-6,64E+01 0,00E+00
्र छि मु	PERE PERM PERT	rw rM	0 0 0	0 0 0	4,14E-02 0,00E+00 4,14E-02	1,58E-01 -2,88E+01 -2,86E+01	5,54E-02 0,00E+00 5,53E-02	-6,64E+01 0,00E+00 -6,64E+01
	PERE PERM PERT PENRE	M) MJ MJ	0 0 0 0	0 0 0 0	4,14E-02 0,00E+00 4,14E-02 2,89E+00	1,58E-01 -2,88E+01 -2,86E+01 5,24E+00	5,54E-02 0,00E+00 5,53E-02 2,81E+00	-6,64E+01 0,00E+00 -6,64E+01 -7,23E+01
	PERE PERM PERT PENRE PENRM	MJ MJ MJ	0 0 0 0 0	0 0 0 0 0	4,14E-02 0,00E+00 4,14E-02 2,89E+00 0,00E+00	1,58E-01 -2,88E+01 -2,86E+01 5,24E+00 -1,26E+02	5,54E-02 0,00E+00 5,53E-02 2,81E+00 0,00E+00	-6,64E+01 0,00E+00 -6,64E+01 -7,23E+01 0,00E+00
	PERE PERM PERT PENRE PENRM PENRT	MJ MJ MJ	0 0 0 0 0 0	0 0 0 0 0 0	4,14E-02 0,00E+00 4,14E-02 2,89E+00 0,00E+00 2,89E+00	1,58E-01 -2,88E+01 -2,86E+01 5,24E+00 -1,26E+02 -1,20E+02	5,54E-02 0,00E+00 5,53E-02 2,81E+00 0,00E+00 2,81E+00	-6,64E+01 0,00E+00 -6,64E+01 -7,23E+01 0,00E+00 -7,23E+01
	PERE PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ MJ kg	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	4,14E-02 0,00E+00 4,14E-02 2,89E+00 0,00E+00 2,89E+00 0,00E+00	1,58E-01 -2,88E+01 -2,86E+01 5,24E+00 -1,26E+02 -1,20E+02 0,00E+00	5,54E-02 0,00E+00 5,53E-02 2,81E+00 0,00E+00 2,81E+00 0,00E+00	-6,64E+01 0,00E+00 -6,64E+01 -7,23E+01 0,00E+00 -7,23E+01 0,00E+00

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PERT = Total use of non renewable primary energy resources; SENRE = Use of non renewable primary energy resources; SENRE = Use of non renewable primary energy resources; SM = Use of secondary materials; RESF = Use of renewable primary energy resources; SM = Use of secondary materials; RESF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009" \*INA Indicator Not Assessed

End of life - Waste	nd of life - Waste								
	Indicator		Unit		A1-A3	A4	A5	B2	B3
Â	HWD	kg		g	7,37E-01	3,39E-03	0,00E+00	0	0
Ū	NHWD	kg		g	2,96E+01	3,20E+00	8,82E+00	0	0
	RWD		kg		3,77E-03	4,48E-04	0,00E+00	0	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
A	HWD		kg	0	0	1,49E-04	0,00E+00	1,08E+01	-2,11E-02
Ū	NHWD		kg	0	0	1,41E-01	3,20E-02	1,79E-01	-2,79E+00
2	RWD		kg	0	0	1,97E-05	0,00E+00	1,73E-05	-1,12E-04

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	End of life - Output flow									
Indi	cator		Unit		A1-A3	A4	A5	B2	B3	
Ô	CRU		kg		0,00E+00	0,00E+00	0,00E+00	0	0	
\$\$	MFR		kg		3,03E+00	0,00E+00	8,13E+00	0	0	
DF3	MER	k			5,90E-06	0,00E+00	6,04E-01	0	0	
۶D	EEE		MJ		4,56E-01	0,00E+00	4,94E-01	0	0	
DØ	EET		МЈ		6,90E+00	0,00E+00	7,47E+00	0	0	
Indicato	r	Uni	t	B4	C1	C2	C3	C4	D	
$\otimes \triangleright$	CRU	kg		0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
\$\$D	MFR	kg		0	0	0,00E+00	4,91E+00	0,00E+00	0,00E+00	
DF	MER	kg		0	0	0,00E+00	2,13E+01	0,00E+00	0,00E+00	
50	EEE	M.		0	0	0,00E+00	7,30E+00	0,00E+00	0,00E+00	
	EET	M.		0	0	0,00E+00	1,10E+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	6,98E-01					
Biogenic carbon content in accompanying packaging	kg C	4,28E+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, Poland (kWh)	ecoinvent 3.6	1060,47	g CO2-eq/kWh

#### **Dangerous substances**

The product contains no substances on the REACH Candidate list at or above 100 ppm, 0,01 % by weight.

#### Indoor environment

#### **Additional Environmental Information**

#### **Key Environmental Indicators**

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO <sub>2</sub> -eq	134,03	4,35	169,56	162,13
Total energy consumption	MJ	1857,86	66,82	1938,01	1801,64
Amount of recycled materials	%	10,68			

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit		A1-A3	A4	A5	B2	B3
GWPIOBC	kg CO <sub>2</sub> -eq	kg CO <sub>2</sub> -eq		4,35E+00	0,00E+00	0	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	1,91E-01	1,36E+01	1,34E-01	-9,95E+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 <sub>2</sub> -eq)	Total energy consumption (MJ)	Amount of recycled materials (%)	
Kokon™ with Footrest	26,46	175,03	2421,01	11,20	

Key environmental indicators (A1-A3) for options for this EPD					
Options	Weight (kg)	GWPtotal (kg CO <sub>2</sub> -eq)	Total energy consumption (MJ)	Amount of recycled materials (%)	
Kokon™ Footrest	5,17	43,93	598,78	13,04	



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