

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

RH Logic 400



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**Flokk**

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The Norwegian EPD Foundation

**Owner of the declaration:**

Flokk AS

**Product:**

RH Logic 400

**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-7708-7084-EN

**Registration number:**

NEPD-7708-7084-EN

**Issue date:** 04.10.2024

**Valid to:** 04.10.2029

**EPD software:**

LCAno EPD generator ID: 573561

## General information

### Product

RH Logic 400

### Program operator:

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

### Declaration number:

NEPD-7708-7084-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 RH Logic 400

### Declared unit (cradle to gate) with option:

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

### Functional unit:

1 pcs. RH logic 400 (3550, including packaging).

### 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 EPD Norway'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:

Flokk AS  
Contact person: Atle Thiis-Messel  
Phone: 0047 98 25 68 30  
e-mail: [atle.messel@flokk.com](mailto:atle.messel@flokk.com)

### Manufacturer:

Flokk AS  
Drammensveien 145,  
0277 Oslo, Norway

### Place of production:

Flokk - Nässjö  
Vallgatan 1  
571 23 Nässjö, Sweden

### Management system:

ISO 14001, ISO 9001.

### Organisation no:

No 928 902 749

### Issue date:

04.10.2024

### Valid to:

04.10.2029

### Year of study:

2024

### Comparability:

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

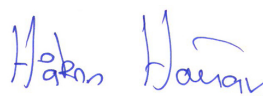
### Development and verification of EPD:

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: Kenneth Dam Lindegaard Knudsen

Reviewer of company-specific input data and EPD: Edward Buzura

### Approved:



Håkon Hauan  
Managing Director of EPD-Norway

## Product

### Product description:

The RH Logic 400 series is designed to provide superior ergonomic comfort for those who spend long hours seated. Each model in the series features a large backrest and is equipped with frictionless tilt mechanisms, allowing for infinite adjustability. The chair's tilt can be locked in any chosen position, though it is recommended to keep the tilt open to encourage active seating. The backrest angle is separately adjustable, ensuring personalized support in any position. All models come with castors for soft floors and a durable aluminum base, which can be customized with a variety of options and accessories.

The standard RH Logic 400 offers a large backrest and simple, intuitive controls that are easy to access while seated. Its design ensures full back support with adjustable lumbar support and a tapered cushion that facilitates upper body movement.

The RH Logic 400 Comfort adds extra padding to the backrest for improved ventilation, providing additional comfort for extended use. It includes standard soft-floor castors and a graphite aluminum base. The lumbar support is adjustable and height can be easily changed while seated, ensuring full back comfort. The tapered backrest allows for free upper body movement.

For a more premium look, the RH Logic 400 Elegance comes with an upholstered backshell and retains the same ergonomic features as the other models, including lumbar support, soft-floor castors, and a graphite aluminum base.

The RH Logic 400 Elite is built for the most demanding environments, with extra foam padding in both the seat and backrest, making it ideal for 24/7 use. Like the other models, it offers fully adjustable lumbar support, height adjustability, and a tapered backrest for upper body movement. Its robust design ensures comfort during intensive use while maintaining flexibility to meet personal ergonomic needs.

### Product specification

The model studied in this declaration is the RH Logic 400 (3550), including packaging. The model declared does not include any options such as armrests.

The key environmental indicators for the other models of the family, and applicable options of the product collection are presented in a table on page 12 of this declaration.

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Plastic - Nylon (PA)	0,28	1,28	0,00	0,00
Plastic - Polyethylene (HDPE)	0,15	0,68	0,00	0,00
Plastic - Polyoxymethylene (POM)	0,50	2,23	0,00	0,00
Plastic - Polypropylene (PP)	5,61	25,14	5,23	93,36
Plastic - Polyurethane (PUR)	1,48	6,61	0,00	0,00
Powder coating	0,02	0,09	0,00	0,00
Reinforcement	0,01	0,04	0,00	0,00
Rubber, synthetic	0,05	0,24	0,00	0,00
Textile - Polyester (PE)	0,31	1,39	0,31	100,00
Metal - Aluminium	4,08	18,29	3,43	84,21
Metal - Steel	9,80	43,93	1,35	13,83
Metal - Zinc	0,00	0,01	0,00	0,00
Others	0,02	0,08	0,00	1,24
<b>Total</b>	<b>22,30</b>	<b>100,00</b>	<b>10,33</b>	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0,80	19,48	0,00	0,00
Packaging - Paper	0,02	0,53	0,01	34,31
Packaging - Plastic	0,07	1,80	0,00	0,00
Recycled cardboard	3,22	78,19	3,22	100,00
<b>Total incl. packaging</b>	<b>26,42</b>	<b>100,00</b>	<b>13,56</b>	

### Technical data:

### Market:

Worldwide.

A4 stage transportation from factory to market, is assumed to be 1.000 km.  
See table on page 6 for further detail.

### Reference service life, product

15 years.

### Reference service life, building

## LCA: Calculation rules

### Declared unit:

1 pcs RH Logic 400

### 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:

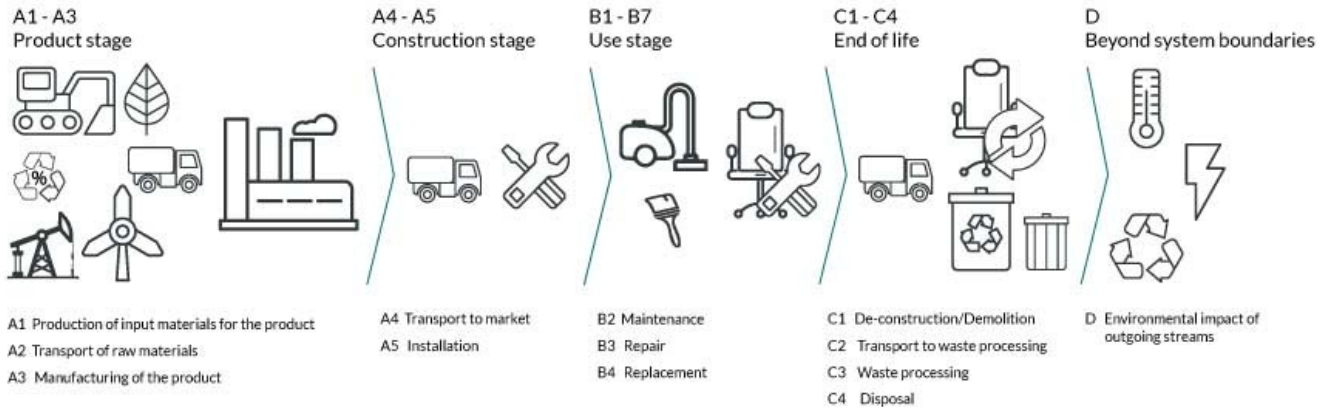
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other 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
Metal - Steel	SSAB	EPD (EN15804A1) + company dataset (EN15804A2)	2020
Metal - Zinc	ecoinvent 3.6	Database	2019
Others	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (HDPE)	ecoinvent 3.6	Database	2019
Plastic - Polyoxymethylene (POM)	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	Modified ecoinvent 3.6	Database	2019
Plastic - Polyurethane (PUR)	ecoinvent 3.6	Database	2019
Powder coating	Ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Reinforcement	ecoinvent 3.6	Database	2019
Rubber, synthetic	ecoinvent 3.6	Database	2019
Textile - Polyester (PE)	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:

## 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 %	1000	0,023	l/tkm	23,00
Assembly (A5)					
	Unit	Value			
Waste, packaging, plastic film (LDPE), to average treatment - A5 (kg)	kg	0,07			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0,80			
Waste, packaging, cardboard, 100 % recycled, to average treatment (kg)	kg	3,22			
Waste, packaging, paper printed, to average treatment (kg)	kg	0,02			
Maintenance (B2)					
	Unit	Value			
Electricity, Nordic (kWh)	kWh/DU	0,81			
Water, tap water (m3)	m3/DU	11,70			
Repair (B3)					
	Unit	Value			
Electricity, Nordic (kWh)	kWh/DU	0,55			
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 %	100	0,043	l/tkm	4,30
Waste processing (C3)					
	Unit	Value			
Waste treatment per kg Textile, incineration with fly ash extraction (kg)	kg	0,31			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	1,48			
Waste treatment per kg Polypropylene (PP), incineration with fly ash extraction - C3 (kg)	kg	5,61			
Waste treatment per kg Polyoxymethylene (POM), incineration with fly ash extraction (kg) - CH - C3	kg	0,50			
Waste, materials to recycling (kg)	kg	3,75			
Waste treatment per kg Scrap aluminium, incineration with fly ash extraction (kg)	kg	4,08			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,17			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	9,80			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,15			
Waste treatment per kg Rubber, municipal incineration with fly ash extraction (kg)	kg	0,05			
Waste treatment per kg Polyethylene, PE, incineration with fly ash extraction - C3 (kg)	kg	0,15			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Textile, soiled, process per kg ashes and residues (kg)	kg	0,02			
Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg)	kg	0,06			
Landfilling of ashes from incineration of Polypropylene, PP, process per kg ashes and residues - C4 (kg)	kg	0,17			
Landfilling of ashes from incineration of Polyoxymethylene (POM), process per kg ashes and residues (kg) - CH - C4	kg	0,01			
Landfilling of ashes and residues from incineration of Scrap aluminium (kg)	kg	3,65			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,04			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	6,47			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg)	kg	0,01			
Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg)	kg	0,00			
Landfilling of ashes from incineration of Polyethylene, PE, process per kg ashes and residues - C4 (kg)	kg	0,01			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	12,70			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	192,08			
Substitution of primary aluminium with net scrap (kg)	kg	0,07			
Substitution of primary steel with net scrap (kg)	kg	2,74			

## 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 <sub>2</sub> -eq	6,47E+01	2,30E+00	6,93E+00	4,16E+00	8,01E-02	
GWP-fossil	kg CO <sub>2</sub> -eq	7,10E+01	2,30E+00	7,12E-02	4,12E+00	7,47E-02	
GWP-biogenic	kg CO <sub>2</sub> -eq	-6,38E+00	9,86E-04	6,86E+00	2,72E-02	1,36E-03	
GWP-luluc	kg CO <sub>2</sub> -eq	8,94E-02	7,01E-04	2,21E-05	1,26E-02	4,09E-03	
ODP	kg CFC11 -eq	3,57E-06	5,55E-07	1,42E-08	3,67E-07	8,08E-09	
AP	mol H+ -eq	3,20E-01	7,41E-03	3,17E-04	2,39E-02	3,44E-04	
EP-FreshWater	kg P -eq	2,61E-03	1,83E-05	5,49E-07	3,28E-04	4,94E-06	
EP-Marine	kg N -eq	6,54E-02	1,62E-03	1,09E-04	3,79E-03	5,44E-05	
EP-Terrestrial	mol N -eq	6,76E-01	1,81E-02	1,13E-03	4,43E-02	7,31E-04	
POCP	kg NMVOC -eq	2,13E-01	7,11E-03	3,27E-04	1,38E-02	1,71E-04	
ADP-minerals&metals <sup>1</sup>	kg Sb-eq	1,48E-02	4,10E-05	1,62E-06	1,14E-04	1,16E-06	
ADP-fossil <sup>1</sup>	MJ	9,60E+02	3,74E+01	9,39E-01	7,15E+01	2,02E+00	
WDP <sup>1</sup>	m <sup>3</sup>	1,10E+04	2,87E+01	1,24E+00	1,46E+03	1,56E+02	

Indicator	Unit	B4	C1	C2	C3	C4	D
GWP-total	kg CO <sub>2</sub> -eq	0	0	4,32E-01	2,12E+01	1,24E-01	-4,78E+00
GWP-fossil	kg CO <sub>2</sub> -eq	0	0	4,32E-01	2,07E+01	1,24E-01	-4,72E+00
GWP-biogenic	kg CO <sub>2</sub> -eq	0	0	1,79E-04	4,54E-01	9,24E-05	-6,69E-03
GWP-luluc	kg CO <sub>2</sub> -eq	0	0	1,54E-04	7,04E-05	3,58E-05	-5,10E-02
ODP	kg CFC11 -eq	0	0	9,78E-08	4,33E-08	3,62E-08	-8,11E-02
AP	mol H+ -eq	0	0	1,24E-03	6,41E-03	8,39E-04	-2,82E-02
EP-FreshWater	kg P -eq	0	0	3,45E-06	4,99E-06	1,27E-06	-3,07E-04
EP-Marine	kg N -eq	0	0	2,45E-04	3,31E-03	2,97E-04	-6,61E-03
EP-Terrestrial	mol N -eq	0	0	2,74E-03	3,33E-02	3,29E-03	-6,97E-02
POCP	kg NMVOC -eq	0	0	1,05E-03	8,06E-03	9,47E-04	-2,59E-02
ADP-minerals&metals <sup>1</sup>	kg Sb-eq	0	0	1,19E-05	1,90E-06	2,02E-06	-6,22E-05
ADP-fossil <sup>1</sup>	MJ	0	0	6,52E+00	3,60E+00	2,69E+00	-4,89E+01
WDP <sup>1</sup>	m <sup>3</sup>	0	0	6,31E+00	9,03E+00	6,12E+00	-3,82E+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<sup>-3</sup> = 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	3,93E-06	2,11E-07	4,70E-09	1,99E-07	1,83E-09	
IRP <sup>2</sup>	kgBq U235 -eq	2,73E+00	1,63E-01	4,02E-03	5,42E-01	4,60E-02	
ETP-fw <sup>1</sup>	CTUe	2,01E+03	2,73E+01	1,24E+00	7,79E+01	2,53E+00	
HTP-c <sup>1</sup>	CTUh	9,96E-08	0,00E+00	3,60E-11	1,12E-08	5,90E-11	
HTP-nc <sup>1</sup>	CTUh	1,16E-06	2,64E-08	1,56E-09	2,49E-07	1,55E-09	
SQP <sup>1</sup>	dimensionless	4,52E+02	4,28E+01	6,56E-01	2,14E+01	1,52E+00	

Indicator	Unit	B4	C1	C2	C3	C4	D
PM	Disease incidence	0	0	2,64E-08	4,50E-08	1,51E-08	-8,48E-07
IRP <sup>2</sup>	kgBq U235 -eq	0	0	2,85E-02	6,72E-03	1,09E-02	-1,24E-01
ETP-fw <sup>1</sup>	CTUe	0	0	4,84E+00	3,97E+01	1,71E+00	-2,64E+02
HTP-c <sup>1</sup>	CTUh	0	0	0,00E+00	1,21E-09	6,10E-11	-1,76E-08
HTP-nc <sup>1</sup>	CTUh	0	0	5,28E-09	3,09E-08	1,78E-09	2,15E-07
SQP <sup>1</sup>	dimensionless	0	0	4,56E+00	5,06E-01	5,90E+00	-1,08E+02

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<sup>-3</sup> = 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	1,79E+02	4,70E-01	1,57E-02	1,22E+01	1,98E+00	
	PERM	MJ	3,19E+01	0,00E+00	-3,19E+01	0,00E+00	0,00E+00	
	PERT	MJ	2,11E+02	4,70E-01	-3,19E+01	1,22E+01	1,98E+00	
	PENRE	MJ	8,15E+02	3,74E+01	9,39E-01	7,16E+01	2,05E+00	
	PENRM	MJ	2,68E+02	0,00E+00	-3,14E+00	0,00E+00	0,00E+00	
	PENRT	MJ	1,08E+03	3,74E+01	-2,20E+00	7,16E+01	2,05E+00	
	SM	kg	1,36E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
	RSF	MJ	1,99E+00	1,64E-02	5,15E-04	7,76E-01	2,00E-02	
	NRSF	MJ	6,66E+00	5,51E-02	2,10E-03	7,36E-01	0,00E+00	
	FW	m <sup>3</sup>	8,68E-01	4,25E-03	4,44E-04	1,18E+01	9,03E-03	

Indicator		Unit	B4	C1	C2	C3	C4	D
	PERE	MJ	0	0	9,34E-02	1,20E-01	5,38E-02	-1,03E+02
	PERM	MJ	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	0	0	9,34E-02	1,20E-01	5,38E-02	-1,03E+02
	PENRE	MJ	0	0	6,53E+00	3,62E+00	2,69E+00	-4,88E+01
	PENRM	MJ	0	0	0,00E+00	-2,65E+02	0,00E+00	0,00E+00
	PENRT	MJ	0	0	6,53E+00	-2,61E+02	2,69E+00	-4,88E+01
	SM	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	0	0	3,34E-03	2,85E-03	1,42E-03	9,06E-02
	NRSF	MJ	0	0	1,19E-02	0,00E+00	8,10E-02	-2,66E+00
	FW	m <sup>3</sup>	0	0	6,98E-04	1,03E-02	2,43E-03	-1,40E-01

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<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

End of life - Waste							
Indicator		Unit	A1-A3	A4	A5	B2	B3
	HWD	kg	8,33E-01	2,05E-03	0,00E+00	1,32E-02	1,89E-04
	NHWD	kg	1,12E+01	3,25E+00	4,12E+00	8,51E-01	1,25E-02
	RWD	kg	5,24E-03	2,55E-04	0,00E+00	4,33E-04	2,11E-05

Indicator		Unit	B4	C1	C2	C3	C4	D
	HWD	kg	0	0	3,37E-04	0,00E+00	1,03E+01	-1,39E-02
	NHWD	kg	0	0	3,17E-01	1,67E-01	1,93E-01	-1,78E+00
	RWD	kg	0	0	4,44E-05	0,00E+00	1,66E-05	-1,06E-04

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

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

\*INA Indicator Not Assessed

End of life - Output flow							
Indicator		Unit	A1-A3	A4	A5	B2	B3
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	5,32E-01	0,00E+00	3,80E+00	0,00E+00	0,00E+00
	MER	kg	4,25E-01	0,00E+00	1,55E-03	0,00E+00	0,00E+00
	EEE	MJ	2,82E-01	0,00E+00	2,31E-01	0,00E+00	0,00E+00
	EET	MJ	4,26E+00	0,00E+00	3,50E+00	0,00E+00	0,00E+00

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	3,75E+00	0,00E+00	0,00E+00
	MER	kg	0	0	0,00E+00	2,23E+01	0,00E+00	0,00E+00
	EEE	MJ	0	0	0,00E+00	1,29E+01	0,00E+00	0,00E+00
	EET	MJ	0	0	0,00E+00	1,96E+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 =  $9,0 \cdot 10^{-3} = 0,009$

\*INA Indicator Not Assessed

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	1,87E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>

## 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, high voltage, hydro (kWh) - SE	ecoinvent 3.6	4,02	g CO <sub>2</sub> -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 <sub>2</sub> -eq	64,73	2,30	99,94	95,16
Total energy consumption	MJ	1002,71	37,92	1144,20	989,64
Amount of recycled materials	%	51,32			

### 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	7,35E+01	2,30E+00	7,13E-02	4,20E+00	1,09E-01

Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	4,32E-01	2,10E+01	1,26E-01	-6,23E+00

GWPIOBC: 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 (%)
RH Logic 400 (3550) - Upholstered seat/back (Cura/Gabriel) - No packaging	22,30	67,51	886,94	46,33
RH Logic 400 Comfort (3553) - Upholstered seat/back (Cura/Gabriel) - No packaging	22,30	67,52	887,27	46,30
RH Logic 400 Elegance (3557) - Upholstered seat/back (Cura/Gabriel) - No packaging	22,48	68,18	892,52	46,67
RH Logic 400 Elite (3559) - Upholstered seat/back (Cura/Gabriel) - No packaging	22,44	68,22	897,07	45,98

#### 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 (%)
Headrest RH 3/400 Fabric (Cura/Gabriel)	0,78	6,02	65,90	9,76
Headrest RH 3/400 Leather (Wollsdorf/Paloma Soft)	1,00	10,02	84,93	0,00
Armrests 8S	3,34	13,68	178,55	0,00
Armrests 8S XL	2,64	12,60	163,52	0,00
Armrests 8E	3,17	13,48	170,48	0,00
Armrests 8E - Upholstered (Wollsdorf/Paloma Soft)	3,39	16,80	187,06	0,00
Packaging 1 (Small box, not assembled - used in declared unit)	4,12	-2,78	115,78	78,37
Packaging 2 (Large box, fully assembled)	5,82	-4,07	161,22	83,70

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