epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

HÅG Celi

HÅG

Flokk

The Norwegian EPD Foundation

Owner of the declaration:
Flokk AS

Product:
HÅG Celi

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-6722-6039-EN

Registration number:
NEPD-6722-6039-EN

Issue date: 31.05.2024

Valid to: 31.05.2029

EPD software:
LCAno EPD generator ID: 378863

General information

Product

HÅG Celi

Owner of the declaration:

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

Program operator:

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

Manufacturer:

Flokk AS
Drammensveien 145,
0277 Oslo, Norway

Declaration number:

NEPD-6722-6039-EN

Place of production:

Flokk - Nässjö
Vallgatan 1
571 23 Nässjö, 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 14001, ISO 9001, ISO 50001(Norway, Sweden)

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:

No 928 902 749

Declared unit:

1 pcs HÅG Celi

Issue date:

31.05.2024

Declared unit (cradle to gate) with option:

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

Valid to:

31.05.2029

Year of study:

2024

Functional unit:

1 pcs HÅG Celi 9100 excluding any options such as armrests, but including packaging.

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: Kenneth Dam Lindegaard Knudsen

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

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
Managing Director of EPD-Norway

Product

Product description:

The HÅG Celi family of products presents a versatile and sustainable seating solution suitable for various environments. These chairs are designed to promote comfort and flexibility, featuring the innovative HÅG inBalance® technology, which allows a balanced and flowing tilt function both backwards and forwards, encouraging subconscious movement and enhancing user comfort.

The collection includes both plastic and wooden variants, catering to different aesthetic and functional preferences. The plastic models, such as those with plastic seats and backs, are made from 94% post-consumer recycled polypropylene, reflecting HÅG's commitment to sustainability. These models also incorporate a high percentage of recycled materials in their aluminium frames, with atleast 75% being post-consumer aluminium. These chairs are not only environmentally friendly but also lightweight, making them easy to set up and stack away when not in use.

For those who prefer a touch of elegance and natural materials, the wooden variants offer an attractive alternative. These models feature either wooden seats and backs or a combination of an upholstered seat with a wooden back, blending the warmth of wood with the comfort of upholstery. The use of wood adds a sophisticated touch to any setting while maintaining the lightweight and stackable nature of the chairs.

The HÅG Celi chairs also offer customization options, including armrests and connection devices, enhancing their functionality and adaptability to different settings. Additionally, the upholstered models are available with various textile cover options, allowing for further personalization and comfort.

Product specification

The model studied in this declaration is the HÅG Celi 9100, 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 (%)
Metal - Aluminium	0,03	0,57	0,00	0,00
Metal - Aluminium alloy	2,54	51,31	2,25	88,90
Metal - Steel	0,13	2,59	0,00	0,00
Plastic - Nylon (PA)	0,01	0,16	0,00	0,00
Plastic - Polyoxymethylene (POM)	0,00	0,04	0,00	0,00
Plastic - Polypropylene (PP)	2,11	42,62	2,10	99,83
Powder coating	0,04	0,82	0,00	0,00
Rubber, synthetic	0,09	1,90	0,00	0,00
Total	4,94	100,00	4,36	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0,49	61,11	0,00	0,00
Packaging - Paper	0,01	1,49	0,00	34,31
Recycled cardboard	0,30	37,40	0,30	100,00
Total incl. packaging	5,75	100,00	4,66	

Technical data:

Market:

Worldwide

Reference service life, product

15 Years

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs HÅG Celi

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:

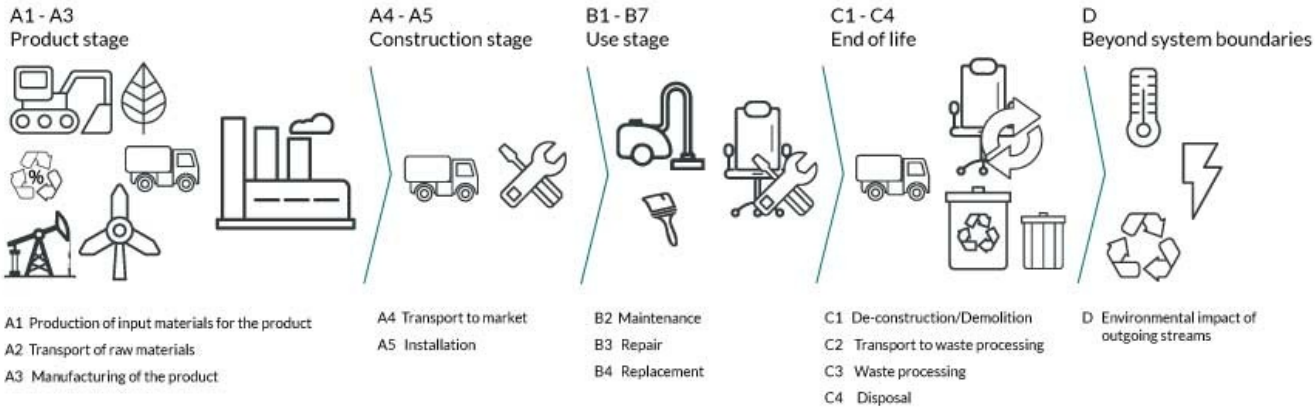
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other 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 - Aluminium alloy	NEPD-5009-4263-EN	EPD	2022
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	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
Powder coating	Ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Rubber, synthetic	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, cardboard, 100 % recycled, to average treatment (kg)	kg	0,30			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0,49			
Waste, packaging, paper printed, to average treatment (kg)	kg	0,01			

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 Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,04			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,01			
Waste treatment per kg Polyoxymethylene (POM), incineration with fly ash extraction (kg) - CH - C3	kg	0,00			
Waste treatment per kg Polypropylene (PP), incineration with fly ash extraction - C3 (kg)	kg	2,11			
Waste treatment per kg Rubber, municipal incineration with fly ash extraction (kg)	kg	0,09			
Waste treatment per kg Scrap aluminium, incineration with fly ash extraction (kg)	kg	2,56			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	0,13			
Waste, materials to recycling (kg)	kg	0,31			

Disposal (C4)	Unit	Value			
Landfilling of ashes and residues from incineration of Scrap aluminium (kg)	kg	2,30			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	0,08			
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 Polyoxymethylene (POM), process per kg ashes and residues (kg) - CH - C4	kg	0,00			
Landfilling of ashes from incineration of Polypropylene, PP, process per kg ashes and residues - C4 (kg)	kg	0,06			
Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg)	kg	0,00			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	3,60			
Substitution of primary aluminium with net scrap (kg)	kg	2,26			
Substitution of primary steel with net scrap (kg)	kg	0,04			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	54,40			

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	9,45E+00	5,01E-01	1,38E+00	4,16E+00	8,01E-02
	GWP-fossil	kg CO_2 -eq	1,06E+01	5,01E-01	1,30E-02	4,12E+00	7,47E-02
	GWP-biogenic	kg CO_2 -eq	-1,26E+00	2,15E-04	1,37E+00	2,72E-02	1,36E-03
	GWP-luluc	kg CO_2 -eq	1,24E-01	1,53E-04	4,31E-06	1,26E-02	4,09E-03
	ODP	kg CFC11 -eq	1,13E-06	1,21E-07	2,75E-09	3,67E-07	8,08E-09
	AP	mol H+ -eq	5,85E-02	1,61E-03	6,17E-05	2,39E-02	3,44E-04
	EP-FreshWater	kg P -eq	4,46E-04	3,98E-06	1,07E-07	3,28E-04	4,94E-06
	EP-Marine	kg N -eq	9,37E-03	3,53E-04	2,04E-05	3,79E-03	5,44E-05
	EP-Terrestial	mol N -eq	1,03E-01	3,94E-03	2,21E-04	4,43E-02	7,31E-04
	POCP	kg NMVOC -eq	3,33E-02	1,55E-03	6,35E-05	1,38E-02	1,71E-04
	ADP-minerals&metals[1]	kg Sb-eq	1,69E-04	8,92E-06	3,17E-07	1,14E-04	1,16E-06
	ADP-fossil[1]	MJ	1,56E+02	8,13E+00	1,82E-01	7,15E+01	2,02E+00
	WDP[1]	m^3	2,44E+03	6,24E+00	2,31E-01	1,46E+03	1,56E+02

Indicator		**Unit**	B4	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	0	0	9,40E-02	5,80E+00	2,96E-02	-2,09E+01
	GWP-fossil	kg CO_2 -eq	0	0	9,39E-02	5,80E+00	2,96E-02	-2,04E+01
	GWP-biogenic	kg CO_2 -eq	0	0	3,89E-05	2,78E-04	2,15E-05	-9,28E-02
	GWP-luluc	kg CO_2 -eq	0	0	3,34E-05	1,38E-05	8,50E-06	-3,92E-01
	ODP	kg CFC11 -eq	0	0	2,13E-08	7,43E-09	8,57E-09	-2,30E-02
	AP	mol H+ -eq	0	0	2,70E-04	1,01E-03	1,99E-04	-1,39E-01
	EP-FreshWater	kg P -eq	0	0	7,50E-07	9,88E-07	3,05E-07	-8,06E-04
	EP-Marine	kg N -eq	0	0	5,34E-05	4,73E-04	7,05E-05	-1,80E-02
	EP-Terrestial	mol N -eq	0	0	5,97E-04	5,14E-03	7,79E-04	-1,98E-01
	POCP	kg NMVOC -eq	0	0	2,29E-04	1,25E-03	2,24E-04	-6,63E-02
	ADP-minerals&metals[1]	kg Sb-eq	0	0	2,59E-06	3,58E-07	4,78E-07	2,69E-05
	ADP-fossil[1]	MJ	0	0	1,42E+00	6,15E-01	6,37E-01	-2,60E+02
	WDP[1]	m^3	0	0	1,37E+00	1,33E+00	1,48E+00	-1,15E+04

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	6,79E-07	4,60E-08	9,10E-10	1,99E-07	1,83E-09
	IRP[2]	kgBq U235 -eq	8,38E-01	3,56E-02	7,79E-04	5,42E-01	4,60E-02
	ETP-fw[1]	CTUe	2,80E+02	5,95E+00	2,43E-01	7,79E+01	2,53E+00
	HTP-c[1]	CTUh	1,72E-08	0,00E+00	8,00E-12	1,12E-08	5,90E-11
	HTP-nc[1]	CTUh	2,43E-07	5,75E-09	3,05E-10	2,49E-07	1,55E-09
	SQP[1]	dimensionless	1,29E+02	9,32E+00	1,22E-01	2,14E+01	1,52E+00

Indicator		Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	5,75E-09	7,98E-09	3,58E-09	-1,56E-06
	IRP[2]	kgBq U235 -eq	0	0	6,21E-03	1,23E-03	2,58E-03	-1,14E+00
	ETP-fw[1]	CTUe	0	0	1,05E+00	1,49E+01	4,09E-01	-3,30E+02
	HTP-c[1]	CTUh	0	0	0,00E+00	1,91E-10	1,50E-11	-5,14E-08
	HTP-nc[1]	CTUh	0	0	1,15E-09	6,05E-09	4,32E-10	-6,10E-07
	SQP[1]	dimensionless	0	0	9,93E-01	9,36E-02	1,40E+00	-3,24E+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	1,30E+02	1,02E-01	3,00E-03	1,22E+01	1,98E+00
	PERM	MJ	9,76E+00	0,00E+00	-9,76E+00	0,00E+00	0,00E+00
	PERT	MJ	1,40E+02	1,02E-01	-9,76E+00	1,22E+01	1,98E+00
	PENRE	MJ	1,35E+02	8,14E+00	1,82E-01	7,16E+01	2,05E+00
	PENRM	MJ	7,20E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PENRT	MJ	2,07E+02	8,14E+00	1,82E-01	7,16E+01	2,05E+00
	SM	kg	4,66E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	5,93E-01	3,58E-03	9,94E-05	7,76E-01	2,00E-02
	NRSF	MJ	3,59E-01	1,20E-02	4,10E-04	7,36E-01	0,00E+00
	FW	m^3	8,54E-01	9,26E-04	8,59E-05	1,18E+01	9,03E-03

Indicator		Unit	B4	C1	C2	C3	C4	D
	PERE	MJ	0	0	2,03E-02	2,20E-02	1,29E-02	-1,20E+02
	PERM	MJ	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	0	0	2,03E-02	2,20E-02	1,29E-02	-1,20E+02
	PENRE	MJ	0	0	1,42E+00	6,19E-01	6,37E-01	-2,60E+02
	PENRM	MJ	0	0	0,00E+00	-7,20E+01	0,00E+00	0,00E+00
	PENRT	MJ	0	0	1,42E+00	-7,13E+01	6,37E-01	-2,60E+02
	SM	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	0	0	7,27E-04	5,46E-04	3,38E-04	-4,10E-02
	NRSF	MJ	0	0	2,60E-03	0,00E+00	1,82E-02	-1,47E+00
	FW	m^3	0	0	1,52E-04	1,53E-03	5,75E-04	-5,38E-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*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	B2	B3
	HWD	kg	1,43E-01	4,45E-04	0,00E+00	1,32E-02	1,89E-04
	NHWD	kg	6,24E+00	7,07E-01	8,05E-01	8,51E-01	1,25E-02
	RWD	kg	7,45E-04	5,55E-05	0,00E+00	4,33E-04	2,11E-05

Indicator		Unit	B4	C1	C2	C3	C4	D
	HWD	kg	0	0	7,32E-05	0,00E+00	2,44E+00	8,41E-02
	NHWD	kg	0	0	6,91E-02	4,03E-02	4,85E-02	-5,95E+00
	RWD	kg	0	0	9,67E-06	0,00E+00	3,94E-06	-1,07E-03

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	0,00E+00
	MFR	kg	3,00E+00	0,00E+00	7,49E-01	0,00E+00	0,00E+00
	MER	kg	2,75E-01	0,00E+00	8,40E-04	0,00E+00	0,00E+00
	EEE	MJ	1,79E-01	0,00E+00	4,60E-02	0,00E+00	0,00E+00
	EET	MJ	2,71E+00	0,00E+00	6,96E-01	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	3,10E-01	0,00E+00	0,00E+00
	MER	kg	0	0	0,00E+00	4,94E+00	0,00E+00	0,00E+00
	EEE	MJ	0	0	0,00E+00	3,66E+00	0,00E+00	0,00E+00
	EET	MJ	0	0	0,00E+00	5,54E+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	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	3,73E-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, Norway, high voltage, hydro power (kWh)	ecoinvent 3.6	6,29	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

GREENGUARD Gold Certified.

Additional Environmental Information

Key Environmental Indicators

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO_2 -eq	9,45	0,50	21,50	0,61
Total energy consumption	MJ	266,16	8,25	366,76	-14,67
Amount of recycled materials	%	80,95			

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	1,08E+01	5,01E-01	1,30E-02	4,20E+00	1,09E-01

Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	0	0	9,40E-02	5,75E+00	2,98E-02	-2,00E+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 (%)**
HÅG Celi 9100 - Recycled plastic seat & back - No packaging	4,94	10,07	200,32	88,16
HÅG Celi 9140 - Recycled plastic seat & back w/ removable upholstery on seat (CeliKnit/Gabriel) - No packaging	5,56	13,10	235,56	84,64
HÅG Celi 9160 - Recycled plastic seat & back w/ removable upholstery on seat & back (CeliKnit/Gabriel) - No packaging	5,90	14,74	251,88	84,03
HÅG Celi 9200 - Wooden seat & back - No packaging	4,71	6,53	284,50	53,96
HÅG Celi 9240 - Wooden seat & back w/ removable upholstery on seat (Cura/Gabriel) - No packaging	5,35	10,40	336,38	49,74

Key environmental indicators (A1-A3) for options for this EPD				
Options	**Weight (kg)**	**GWPtotal (kg CO_2 -eq)**	**Total energy consumption (MJ)**	**Amount of recycled materials (%)**
HÅG Celi - Table hanger	0,20	0,53	6,93	0,00
HÅG Celi - Connection device (2 pcs)	0,08	0,21	2,66	0,00
HÅG Celi - Armrests	1,23	2,32	28,83	90,67
Packaging (Large box, fully assembled - Fits 1 to 4 chairs - used in declared unit)	0,81	-0,57	24,41	37,91

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epd-norway Global Program Operator	**Program operator and publisher** The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: +47 977 22 020 e-mail: post@epd-norge.no web: www.epd-norge.no
Flokk	**Owner of the declaration:** Flokk AS Drammensveien 145,, 0277 Oslo	Phone: 0047 98 25 68 30 e-mail: atle.messel@flokk.com web: https://www.flokk.com
LCA.no	**Author of the Life Cycle Assessment** LCA.no AS Dokka 6B, 1671	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
LCA.no	**Developer of EPD generator** LCA.no AS Dokka 6B,1671 Kråkerøy	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
ECO PLATFORM EPD VERIFIED	ECO Platform ECO Portal	web: www.eco-platform.org web: ECO Portal