epd-norge.no
The Norwegian EPD Foundation

# ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025

| | |
|---|---|
| Owner of the declaration | Flokk AS |
| Program holder and publisher | The Norwegian EPD Foundation |
| Declaration number | NEPD-212-323-EN |
| Issue date | 29.06.2016 |
| Valid to | 29.06.2021 |

## HÅG Capisco Puls 8010

Product

## Flokk AS

Manufacturer

HÅG • RH • BMA • OFFECCT • RBM

# General information

**Product**
Office chair HÅG Capisco Puls 8010

**Owner of the declaration:**
Flokk AS
Contact person: Atle Thiis-Messel
Phone: + 47 982 56 830
E-mail: atle.messel@flokk.com

**General Information**
The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo
Phone: +4723088292
e-mail: post@epd-norge.no

**Manufacturer**
Flokk AS

**Declaration number:**
NEPD-212-323-EN

**Place of production:**
Sundveien 7374 Røros, Norway

**This declaration is based on Product Category Rules:**
PCR for Seating Solution, NPCR 003 extended version 2013, in accordance with recommendations by the Norwegian EPD Foundation.

**Management system:**
ISO 14001, Certificate No.151496-2014-AE-NOR-NA
From the accredited unit: DNV Certification As, Norway.
ISO 9001, Certificate No.151495-2014-AQ-NOR-NA
From the accredited unit: DNV Certification As, Norway.

**Declared unit:**
One office chair: HÅG Capisco Puls 8010

**Org. No:**
No 928 902 749

**Declared unit with option:**
No option

**Issue date:**
29.06.2016

**Functional unit:**
Production of one seating solution provided and maintained for a period of 15 years.

**Valid to:**
29.06.2021

**This EPD has been worked out by:**
The declaration has been developed using Furniture EPD Tool Version 1.2.1, Approval: NEPDT04
Company specific data collected and registered by:
**Laura Fouilland**
Company specific data audited by:
**Carl Peter Aaser**

**Comparability:**
EPDs from programmes other than the Norwegian EPD Foundation may not be comparable

**Year of study:**
2016

**Verification:**
Independent verification of data, other environmental information and EPD has been carried out in accordance with ISO14024, 8.1.3. and 8.1.4.

Approved

externally

Mie Vold, Senior Research Scientist
(Independent verifier approved by EPD Norway)

Håkon Hauan
Managing Director of EPD-Norway

| Key environmental indicators | Unit | Cradle to Gate A1-A3 |
|---|---|---|
| Global warming | kg $CO_2$ | 39,4 |
| Total energy use | MJ | 672 |
| Amount of recycled materials | % | 39,0 % |

## Product

**Product Description and Application**

HÅG Capisco Puls is based on the legendary saddle-seat chair. The starting point is an in-depth understanding of the body and our need for constant motion. The result: a new office chair specially developed for people like you who work in active, modern office environments. HÅG Capisco Puls is a modern and flexible office chair – the latest evolution in form, function and comfort. It's a winner in terms of design and the environment, and its light and dynamic design makes it perfect for a new generation of users. The chair analysed in this declaration - HÅG Capisco Puls 8010 - features a powder coated footbase and a 200mm gaslift.

**Technical Data**

Total Weight: 11,05 kg (packaging excluded)
EN 1335 and ANSI BIFMA tested & approved
GREENGUARD and Möbelfakta certified

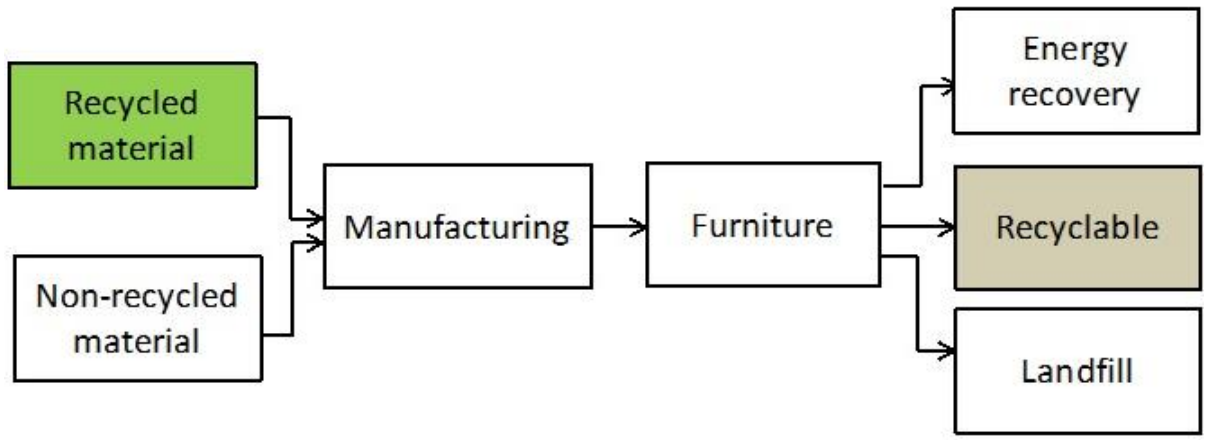
**Market**

Worldwide

**Reference Service Life**

15 years

| Materials | | | | Recycled material in manufactured product | | Recyclable material at end of product life | |
|---|---|---|---|---|---|---|---|
| *Unit* | | *g* | *%* | *%* | *g* | *%* | *g* |
| Metal | Steel | 4348 | 39 % | 24 % | 1 028 | 100 % | 4 348 |
| Metal | Aluminium | 2857 | 26 % | 90 % | 2 570 | 100 % | 2 857 |
| Plastic | Polypropylene (PP) | 2809 | 25 % | 0 % | 0 | 100 % | 2 809 |
| Plastic | Polyamide with glass fiber (PA-GF) | 339 | 3 % | 0 % | 0 | 100 % | 339 |
| Plastic | Polyamide (Nylon) | 276 | 2 % | 0 % | 0 | 100 % | 276 |
| Padding | Polyurehtane (PUR) | 156 | 1 % | 0 % | 0 | 0 % | 0 |
| Plastic | Polyoxymethylene (POM) | 148 | 1 % | 0 % | 0 | 100 % | 148 |
| Textile | Polyester 100% recycled (PE) | 114 | 1 % | 100 % | 114 | 100 % | 114 |
| **Total product** | | **11 046** | 100 % | **34 %** | **3 713** | **99 %** | **10 890** |
| Packaging | Cardboard | 1732 | | 76 % | 1 316 | 100 % | 1 732 |
| Packaging | Polyethylene bag | 106 | | | | 100 % | 106 |
| **Total product with packaging** | | **12 884** | | **39 %** | **5 029** | **99 %** | **12 728** |

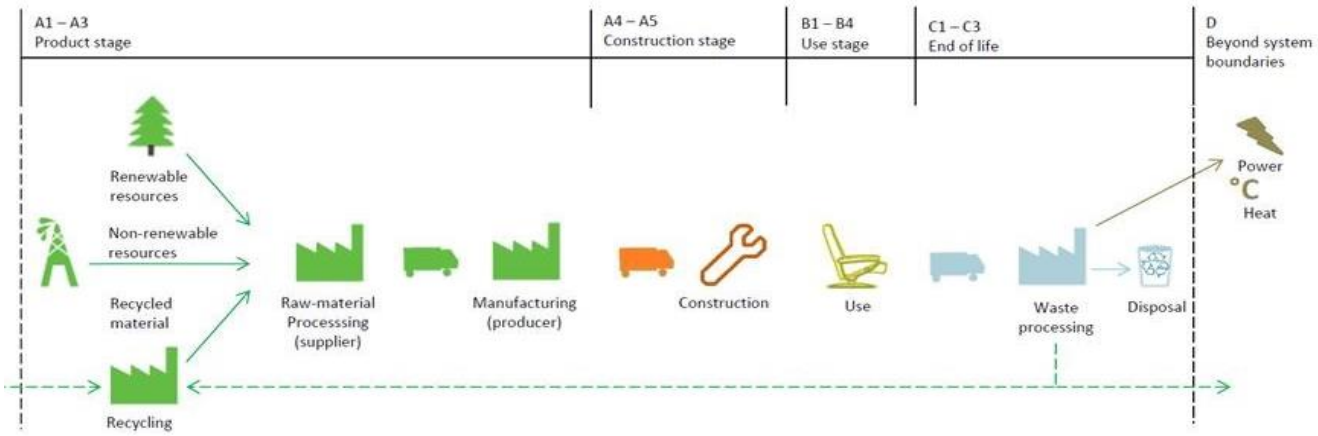



Product manufactured from 39% recycled material (packaging included)
At end of life product contains 99% recyclable material (packaging included)

## LCA: Calculation rules

**Declared unit:**
Production of one seating solution provided and maintained for a period of 15 years.

**System boundary:**
Life cycle stages included are described in figure and through the corresponding letter and number designations in the declaration (see figure below)




**Data quality:**
Specific manufacturing data from 2014 are used. Data from Ecoinvent 3.0.1. and Østfoldforskning databases are used as the basis for raw materials and energy carrier production. See [6].

**Cut-off criteria:**
All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows that are included with very small amounts (<1%) are not included. This cut-off rule does not apply for hazardous materials and substances.

**Allocation:**
Where virgin materials are used, emissions and energy consumption connected with extraction and production are included.
Where recycled materials are used in the product, emissions and energy consumption related to the recycling process are included.
Emissions from incineration are allocated to the product system that uses the recovered energy.
Emissions from incineration of waste are allocated to the product system that uses the recovered energy.

## LCA: Scenarios and additional technical information

Transportation to an average customer in Copenhagen is 1000 km (A4: average European lorry > 32 tonnes)

The use stage (B1) is represented by a scenario and includes vacuum cleaning of textile once a month. The PCR does not provide detailed guidelines for what should be included in the use stage. In the end of life stage, the transport distance for waste to waste processing is 72 km (C1). The reuse, recovery and recycling stage is beyond the system boundaries (D).

It is assumed that the solution is dismantled and the materials recycled or combusted according to the general Norwegian treatment of industrial waste (see the table below). This calculation includes only $CO_2$ emissions (GWP) in the C-modules. The transport distance to reuse, recovery or recycling is varies for each material, but the average distance is 373 km. The vehicles used and associated data are described in detail in [5].

| | Material recovery | Energy recovery | Disposal |
|---|---|---|---|
| Aluminium | 70,1 % | 0,0 % | 30 % |
| Steel | 70,1 % | 0,0 % | 30 % |
| Plastic | 64,3 % | 30,8 % | 5 % |
| Cardboard | 94,5 % | 5,5 % | 0 % |

# LCA: Results

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

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

| Product stage | | | Construction stage | | Use stage | | | | End of life | | | Beyond the system boundaries |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw materials | Transport | Manufacturing | Transport | Construction | Maintenance | Repair | Replacement | Operational energy use | Transport | Waste Processing | Disposal | Reuse-recovery-recycling potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | D |
| x | x | x | x | MNR | x | MNR | MNR | MNR | x | x | x | x |

## Environmental impact (INA=Indicator Not Assessed)

| Parameter | A1 | A2 | A3 | A1-A3 | A4 | B1 | C1 | C2 | C3 | C1-C3 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP | 38,6 | 0,8 | 9,5E-03 | 39,4 | 1,1 | 6,1E-03 | 1,1 | 9,6 | 3,0E-02 | 10,7 | -7,8 |
| ODP | 2,5E-06 | 1,6E-07 | 2,4E-10 | 2,7E-06 | 2,0E-07 | 1,9E-10 | INA | INA | INA | INA | -2,0E-07 |
| POCP | 1,4E-02 | 1,9E-04 | 4,7E-06 | 1,4E-02 | 1,9E-04 | 1,2E-06 | INA | INA | INA | INA | -7,1E-03 |
| AP | 0,1 | 8,1E-04 | 1,1E-04 | 0,1 | 9,5E-04 | 5,0E-06 | INA | INA | INA | INA | -5,7E-03 |
| EP | 0,2 | 4,5E-03 | 1,0E-04 | 0,2 | 4,4E-03 | 3,4E-05 | INA | INA | INA | INA | -2,6E-02 |
| ADPM* | 1,2E-03 | 1,7E-06 | 8,3E-07 | 1,2E-03 | 2,4E-06 | 2,0E-08 | INA | INA | INA | INA | -2,9E-05 |
| ADPE | 588,9 | 12,6 | 0,1 | 601,6 | 16,6 | 8,2E-02 | INA | INA | INA | INA | -185,0 |

**GWP** Global warming potential (kg CO2-eqv.); **ODP** Depletion potential of the stratospheric ozone layer (kg CFC11-eqv.); **POCP** Formation potential of tropospheric photochemical oxidants (kg C2H4-eqv.); **AP** Acidification potential of land and water (kg SO2-eqv.); **EP** Eutrophication potential (kg PO4-3-eqv.); **ADPM** Abiotic depletion potential for non fossil resources (kg Sb -eqv.); **ADPE** Abiotic depletion potential for fossil resources (MJ);

* Some processes use Ecoinvent 3.0.1. and thus data on renewable resources is omitted. The true ADPM, RPEE, RPEM and TPE may be higher than indicated. This issue will be addressed in a new version of Ecoinvent 3, data from which was not available when this declaration was prepared.

## Resource use (INA=Indicator Not Assessed)

| Parameter | A1 | A2 | A3 | A1-A3 | A4 | B1 | C1 | C2 | C3 | C1-C3 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RPEE* | 83,4 | 0,2 | 4,1 | 87,7 | 0,3 | 9,3E-02 | INA | INA | INA | INA | -1,1 |
| RPEM* | 19,3 | 0,1 | 5,4E-03 | 19,4 | 0,1 | 0,0 | INA | INA | INA | INA | -3,0 |
| TPE* | 102,7 | 0,3 | 4,1 | 107,1 | 0,3 | 9,3E-02 | INA | INA | INA | INA | -4,1 |
| NRPE | 570,8 | 13,1 | 0,1 | 584,0 | 17,2 | 7,9E-02 | INA | INA | INA | INA | -182,3 |
| NRPM | 142,2 | 0,0 | 4,2E-04 | 142,2 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| TNRPE | 713,0 | 13,1 | 0,1 | 726,2 | 17,2 | 8,8E-02 | INA | INA | INA | INA | -182,3 |
| SM | 5,2 | 0,0 | 1,6E-13 | 5,2 | 0,0 | 0,0 | INA | INA | INA | INA | -3,3 |
| RSF | 0,0 | 0,0 | 1,9E-06 | 1,9E-06 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| NRSF | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 4,0E-02 | INA | INA | INA | INA | 0,0 |
| W | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |

**RPEE** Renewable primary energy resources used as energy carrier (MJ); **RPEM** Renwable primary energy resources used as raw materials (MJ); **TPE** Total use of renewable primary energy resources (MJ); **NRPE** Non renewable primary energy resources used as energy carrier (MJ); **NRPM** Non renewable primary energy resources used as materials (MJ); **TNRPE** Total use of non renewable primary energy resources (MJ); **SM** Use of secondary materials (kg); **RSF** Use of renewable secondary fuels (MJ); **NRSF** Use of non renewable secondary fuels (MJ); **W** Use of net fresh water (m3);

## End of life - Waste and Output flow (INA=Indicator Not Assessed)

| Parameter | A1 | A2 | A3 | A1-A3 | A4 | B1 | C1 | C2 | C3 | C1-C3 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HW | 2,1E-02 | 7,4E-06 | 1,7E-06 | 2,1E-02 | 9,8E-06 | 5,8E-06 | INA | INA | INA | INA | -0,1 |
| NHW | 22,9 | 1,2 | 1,5E-02 | 24,1 | 1,7 | 7,6E-04 | INA | INA | INA | INA | -0,9 |
| RW | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| CR | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| MR | 1,3E-03 | 0,0 | 1,5E-04 | 1,5E-03 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| MER | 0,0 | 0,0 | 2,3E-06 | 2,3E-06 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| EEE | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |
| ETE | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | INA | INA | INA | INA | 0,0 |

**HW** Hazardous waste disposed (kg); **NHW** Non hazardous waste disposed (kg); **RW** Radioactive waste disposed (kg); **CR** Components for reuse (kg); **MR** Materials for recycling (kg); **MER** Materials for energy recovery (kg); **EEE** Exported electric energy (MJ); **ETE** Exported thermal energy (MJ);

## Specific Norwegian requirements

**Electricity**
Electricity purchased by Flokk for its production sites in Sweden and Norway comes with a guarantee of origin for Nordic Hydropower.
Therefore the electricity mix used in this EPD is: Energy, electricity, hydro, Nordic average.
This gives following greenhouse gas emissions: 2,8 g $CO_2$-eqv/kWh

**Dangerous Substances**
None of the following substances have been added to the product: Substances on the REACH Candidate list of substances of very high concern (of '17.12.2014) substances on the Norwegian Priority list (published 04.12.2014) and substances that lead to the product being classified as hazardous waste. The chemical content of the product complies with regulatory levels as given in the Norwegian Product Regulations.

**Indoor environment**
Greenguard certificate

**Climate declaration**
Not relevant

## Bibliography

[1] NS-EN ISO 14025:2006, Environmental labels and declarations-Type III environmental declarations
Principles and procedures

[2] NS-EN ISO 14044:2006, Environmental management - Life cycle assessment - Requirements and guidelines

[3] EN 15804:2012 + A1:2013 Sustainability of construction works - Environmental product declaration
Core rules for the product category of construction products

[4] PCR for seating solution: PRODUCT-CATEGORY RULES(PCR) for preparing an environmental product declaration (EPD) for Product Group “Seating solution”, PCR 2008:NPCR 003, extended version

[5] Raadal, H. L., Modahl, I. S., Lyng, K. A. (2009). Klimaregnskap for avfallshåndtering, Fase I og II. OR 18.09.
ISBN : 978-82-7520-611-2, 82-7520-611-1

[6] Brekke, A., Møller, H., Baxter, J., Askham, C. (2014). Verktøy - miljødeklarasjon for møbel
Dokumentasjon som grunnlag for verifisering, Ostfold Research

epd-norge.no
The Norwegian EPD Foundation

**Program holder and publisher**
The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo
Norge
Phone: +47 23 08 82 92
email: post@epd-norge.no
web: www.epd-norge.no

HÅG • RH • BMA • OFFECCT • RBM

**Owner of the declaration**
Flokk AS
Fridtjof Nansens vei 12, 0303 Oslo
Contact person: Atle Thiis-Messel
Phone: +47 982 56 830
email: info-no@flokk.com
web: www.flokk.com

Østfoldforskning

**Author of the Life Cycle Assessment**
Østfoldforskning AS
Stadion 4
1671 Kråkerøy, Norway
Phone: +47 69 35 11 00
email: post@ostfoldforskning.no
web: www.ostfoldforskning.no