

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 ^[1]

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HÅG Tribute 9031 including variants, page 6

Product

Flokk

HÅG • RH • GIROFLEX • BMA • OFFECCT • RBM

Flokk AS

Manufacturer



Product

Product Description and Application

The HÅG Tribute 9031 is an easy-to-use luxury task chair that allows excellent freedom of movement. Features the unique HÅG in Balance® technology with a smooth backward and forward tilt function.

S-curved back supports the body's natural curvature and reduces tension in the upper back, shoulders and neck. Active upper back and headrest move forward to support during recline. Fully integrated lumbar support is easy to personalize. Smart HÅG TiltDown™ armrests allow to sit close to the desk. Seat height and depth are adjustable. Tilt resistance is adjustable and lockable.

In this declaration, HÅG Tribute 9031 is studied with its HÅG TiltDown™ armrests and headrest.

Technical Data

Total Weight: 26,5kg (packaging excluded)
GREENGUARD certified

Market

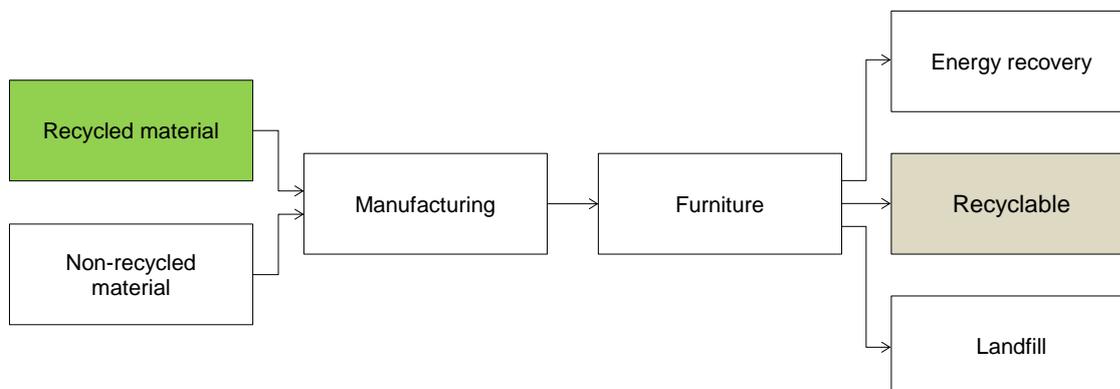
Worldwide

Reference Service Life

15 years

Materials			Recycled share in product		Recyclable potential of product		
Unit		g	%	g	%	g	%
Metal	Aluminium	8 311	4749%	7 185	86%	8 311	100%
Metal	Steel	5 961	3406%	1 116	19%	5 961	100%
Plastic	Polypropylene (PP)	4 858	2776%	3 028	62%	4 858	100%
Padding	Polyurethane (PUR)	2 520	1440%	0	0%	0	0%
Textile	Polyester	1 532	875%	0	0%	1 532	100%
Plastic	Polyamide (Nylon)	1 057	604%	0	0%	1 057	100%
Plastic	Polyoxymethylene (POM)	795	454%	0	0%	795	100%
Metal	Zinc	668	382%	0	0%	668	100%
Plastic	Polyamide with glass fiber (PA-GF)	382	218%	0	0%	382	100%
Plastic	TPU	175	100%	0	0%	175	100%
Plastic	Polyethylene (HD/LD-PE)	106	61%	0	0%	106	100%
Plastic	Rubber	99	57%	0	0%	99	100%
Textile	Leather	50	29%	0	0%	0	0%
Total product		26 514	100%	11 329	43%	23 944	90%

Packaging	Cardboard	2 128		1 603	75%	2 128	100%
Packaging	Expanded polystyrene (EPS)	545		0	0%	0	0%
Packaging	Polyethylene bag (plastic bag)	168		0	0%	168	100%
Total product with packaging		29 355		12 932	44%	26 240	89%



Product manufactured from 44% recycled material (packaging included)

At end of life product contains 89% recyclable material (packaging included)

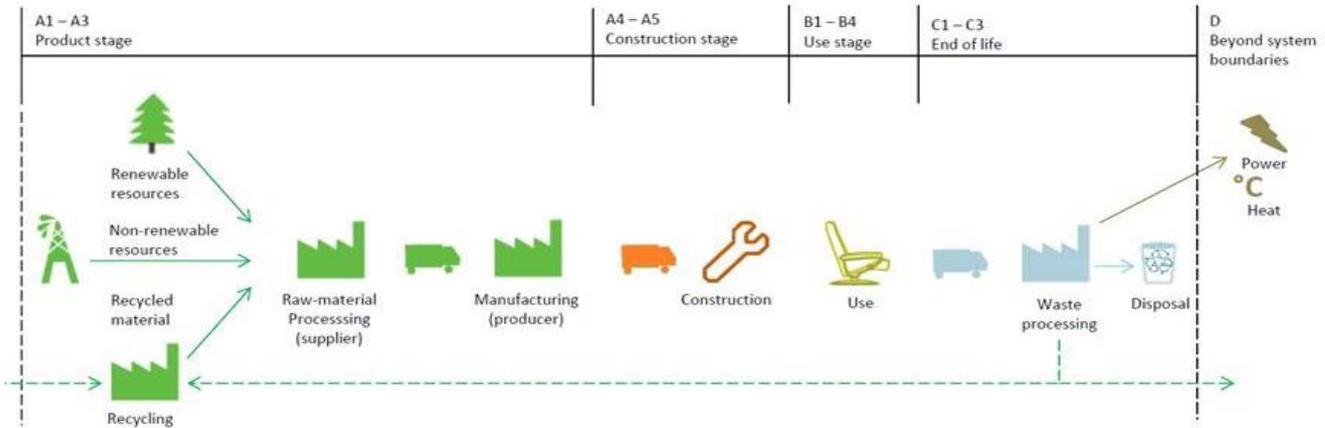
LCA: Calculation rules

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 [5].

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 is represented by a scenario and includes vacuum cleaning of textile once a month. The PCR [3] 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). The transport distance to reuse, recovery or recycling is varying for each material, but the average distance is 373 km. The vehicles used and associated data are described in detail in [4].

	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 scenarios 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	123,6	2,0	3,4E-02	125,7	2,5	6,1E-03	2,4	28,9	0,1	31,4	-16,9
ODP	5,3E-06	3,9E-07	8,7E-10	5,7E-06	5,0E-07	1,9E-10	INA	INA	INA	INA	0,0E+00
POCP	3,8E-02	3,6E-04	1,7E-05	3,9E-02	4,0E-04	1,2E-06	INA	INA	INA	INA	0,0E+00
AP	0,6	8,8E-03	3,7E-04	0,6	9,7E-03	5,0E-06	INA	INA	INA	INA	0,0E+00
EP	0,2	1,8E-03	3,9E-04	0,2	2,2E-03	3,4E-05	INA	INA	INA	INA	0,0E+00
ADPM*	7,7E-03	3,8E-06	3,0E-06	7,7E-03	5,0E-06	2,0E-08	INA	INA	INA	INA	0,0E+00
ADPE	1602,1	33,5	0,2	1635,8	42,3	8,2E-02	INA	INA	INA	INA	-444,5

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*	140,3	0,6	14,8	155,7	0,7	9,3E-02	INA	INA	INA	INA	0,0
RPEM*	34,1	0,1	2,0E-02	34,2	0,2	0,0	INA	INA	INA	INA	0,0
TPE*	174,4	0,7	14,8	189,9	0,9	9,3E-02	INA	INA	INA	INA	0,0
NRPE	1593,6	34,4	0,3	1628,3	43,5	7,9E-02	INA	INA	INA	INA	0,0
NRPM	232,0	0,0	1,5E-03	232,0	0,0	0,0	INA	INA	INA	INA	0,0
TNRPE	1825,6	34,4	0,3	1860,3	43,5	8,8E-02	INA	INA	INA	INA	0,0
SM	11,6	0,0	5,9E-13	11,6	0,0	0,0	INA	INA	INA	INA	0,0
RSF	0,0	0,0	6,7E-06	6,7E-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** Renewable 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	0,1	1,7E-05	6,2E-06	0,1	2,1E-05	5,8E-06	INA	INA	INA	INA	0,0
NHW	65,3	2,9	0,1	68,2	3,7	7,6E-04	INA	INA	INA	INA	0,0
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	1,5E-03	0,0	5,5E-04	2,0E-03	0,0	0,0	INA	INA	INA	INA	0,0
MER	0,0	0,0	6,4E-06	6,4E-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 CO₂-eq/kWh

Dangerous Substances

None of the following substances have been added to the product: Substances on the Candidate list of substances of very high concern (published in accordance with Article 59(10) of the REACH Regulation), substances on the Norwegian Priority list 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

Additional environmental information

Key environmental indicators for variants in the HÅG Tribute collection
Cradle to Gate analyse from A1 to A3

Variant model number	Global warming (kg CO ₂)	Total energy use (MJ)	Share of recycled material in product
HÅG Tribute 9031 (with HÅG TiltDown™ armrests and headrest)	126,0	1755,0	44%
HÅG Tribute 9021 (with HÅG TiltDown™ armrests)	117,0	1659,2	43%
HÅG Tribute Meeting 9073	87,3	1320,9	43%

Bibliography

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

[2] ISO 14024:1999, Environmental labels and declarations - Type I environmental labelling - Principles and procedures

[3] PCR for seating solution: PRODUCT-CATEGORY RULES (PCR) for preparing an environmental product declaration (EPD) for Product Group "Seating solution", NPCR 003:2015

[4] Raadal, H. L., Modahl, I. S., Lyng, K. A. (2009). Klimaregnskap for avfallshåndtering, Fase I og II. OR 18.09.
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[5] Brekke, A., Møller, H., Baxter, J., Askham, C. (2014). Verktøy - miljødeklarasjon for møbel
Dokumentasjon som grunnlag for verifisering, Ostfold Research

<p>epd-norge.no The Norwegian EPD Foundation</p>	<p>Program holder and publisher The Norwegian EPD Foundation P.B 5250 Majorstuen, 0303 Oslo, Norge</p>	<p>Phone: +47 22 03 03 03 email: post@epd-norge.no web: www.epd-norge.no</p>
	<p>Owner of the declaration Flokk Fridtjof Nansens vei 12, 0303 Oslo Contact person: Laura Fouilland</p>	<p>Phone: +47 40 41 56 13 email: laura.fouilland@flokk.com web: www.flokk.com</p>
	<p>Author of the Life Cycle Assessment Østfoldforskning AS Stadion, 41671 Kråkerøy, Norway</p>	<p>Phone: +47 69 35 11 00 email: post@ostfoldforskning.no web: www.ostfoldforskning.no</p>