



# ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025

Owner of the declaration:	Back App AS
Program operator:	The Norwegian EPD Foundation
Publisher:	The Norwegian EPD Foundation
Declaration number:	NEPD-390-276-EN
Issue date:	06.01.2016
Valid to:	06.01.2021 (validity extended to 15.10.2021)

## Back App Office chair

Back App AS



[www.epd-norge.no](http://www.epd-norge.no)



## General information

### Product

Chair BA 2.0 with BA wheels

### Program holder

The Norwegian EPD Foundation  
 Post box 5250 Majorstuen, 0303 Oslo, Norway  
 Phone: +47 23 08 82 92  
 e-mail: [post@epd-norge.no](mailto:post@epd-norge.no)

### Declaration number

NEPD-390-276-EN

### This declaration is based on Product Category Rules:

NPCR 003:2015 Seating

### Statements

The owner of the declaration shall be liable for the underlying information and evidence.  
 EPD Norway shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

### Declared unit:

One produced unit of seating ready to leave the factory gate.

### Declared unit with option:

Option: BA Wheels

### Functional unit:

### Owner of the declaration

Back App AS  
 Contact person: Jostein Magerøy  
 Phone: +47 99021482  
 e-mail: [jostein@backapp.eu](mailto:jostein@backapp.eu)  
 Address: Grenseveien 26, 1929 Auli, Norway

### Manufacturer

Back App AS

### Place of production:

Box 68, SE-334 21 Anderstorp, Sweden

### Management system:

### Organisation no:

986 240 977

### Issue date

06.01.2016

### Valid to

06.01.2021 (validity extended to 15.10.2021)

### Year of study:

2015

### Comparability:

EPDs from other programmes than the Norwegian EPD foundation may not be comparable.

### The EPD has been worked out by:

Cecilia Askham and Ellen Soldal




### Verification:

Independent verification of the declaration and data, according to ISO14025:2010

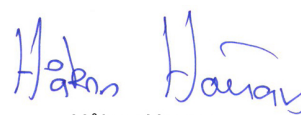
internal  external

Third party verifier:



PhD Andreas Brekke  
 (Independent verifier approved by EPD Norway)

Approved



Håkon Hauan  
 Managing Director of EPD-Norway

## Product

### Product description:

Back App 2.0 is a chair designed to stimulate movement when sitting in order to avoid diseases related to many hours of sitting still every day. The feet are placed on a foot ring which brings the whole body to balance on the ball at the center of the base. The chair can be equipped with wheels by placing it on a wheel-plate.

### Product specification

Materials	BA 2.0 w/o wheels		BA 2.0 w/ wheels	
	g	%	g	%
Steel	2234	23 %	2234	14 %
Aluminum	2821	29 %	7684	49 %
Plastics	1855	19 %	2218	14 %
Textiles	200	2 %	200	1 %
Cardboard	2220	23 %	2987	19 %
Various	263	3 %	263	2 %
Total	9593	100 %	15586	100 %

### Technical data:

Weight: BA 2.0 chair 9.6 kg, BA wheels 5.8 kg

SS-EN ISO 12945-2:2000 (Stare 2012), EN 1021-1 and N 1021-2 (Bergstrand 2013a), EN 1728:2012 (Anderson 2013), BS 5852: Part 1 (Bergstrand 2013b).

### Market:

Europe

### Reference service life:

15 years

## LCA: Calculation rules

### Declared unit:

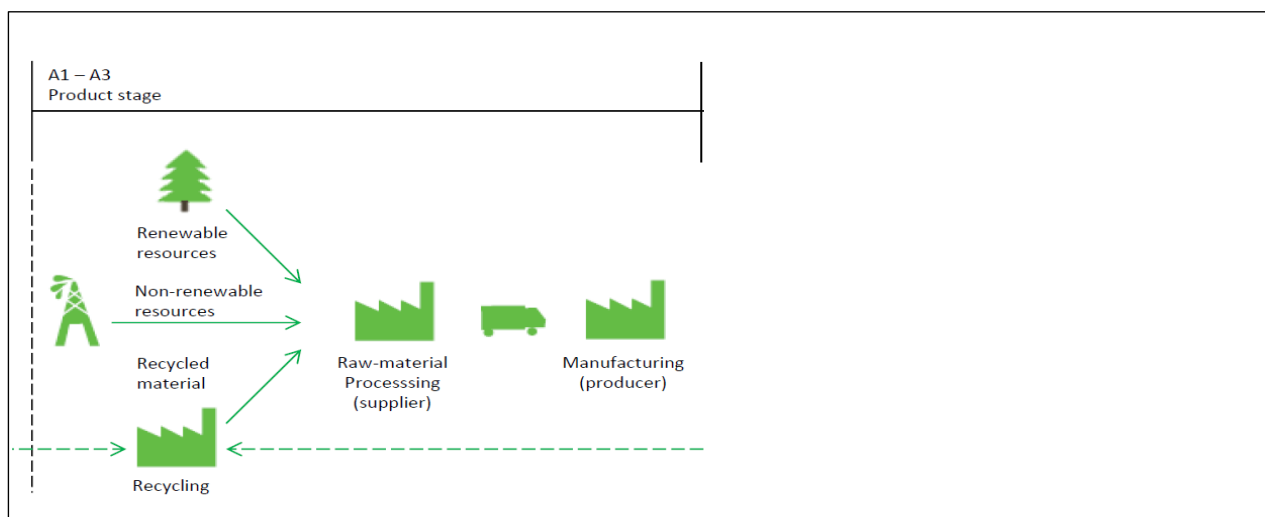
One produced unit of seating ready to leave the factory gate, with optional wheels.

Chair components are assembled, the tilt damping device is fastened by double-sided tape, and the chair packed for distribution to the customer in the Exmo AB facilities in Anderstorp Sweden.

### System boundary:

Life cycle stages included are illustrated in the Figure 1. Life cycle stages included are raw material extraction and processing, transport to the manufacturer and manufacturing of seating solution. Data for production year 2013 and 2014 has been used. The chair is assembled in Sweden, and the parts are delivered from manufacturers mainly in Europe (Sweden, Italy, Lithuania, Poland, Romania and Germany).

Figure 1 shows a schematic view of the processes included in the declaration.



### Data quality:

Specific data have been collected from suppliers and manufacturers. Where specific data was not available, generic data from Ecoinvent 3 and Østfold Research's database have been used. Ecoinvent 3 is used as basis for raw material and energy carrier production. The generic data from Ecoinvent is of various age. The specific data were collected from the raw material manufacturers and are from 2013 and 2014.

### Allocation:

The allocation is made in accordance with the provisions of ISO 14025. 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 allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production process 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.

## LCA: Scenarios and additional technical information

There are no scenarios included for the life cycle stages A4-D

## LCA: Results

The raw material supply is the life cycle module with the highest impact. Amongst the raw materials, aluminum used for the chair base is the most influential in almost all impact categories.

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

Product stage			Assembly 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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impact		BA 2.0 without wheels				BA 2.0 with wheels			
Parameter	Unit	A1	A2	A3	A1-A3	A1	A2	A3	A1-A3
GWP	kg CO <sub>2</sub> -eqv	35,46	1,71	3,14	40,32	47,42	1,80	4,58	53,81
ODP	kg CFC11-eqv	2,30E-06	3,00E-07	9,53E-07	3,55E-06	4,62E-06	3,15E-07	1,49E-06	6,43E-06
POCP	kg C <sub>2</sub> H <sub>4</sub> -eqv	9,47E-03	6,45E-04	9,95E-04	0,01	0,01	6,62E-04	1,49E-03	0,01
AP	kg SO <sub>2</sub> -eqv	0,18	0,02	0,01	0,22	0,24	0,02	0,02	0,28
EP	kg PO <sub>4</sub> <sup>3-</sup> -eqv	0,05	2,60E-03	0,03	0,08	0,07	2,70E-03	0,05	0,12
ADPM	kg Sb-eqv	1,15E-03	3,61E-06	1,49E-05	1,17E-03	3,04E-03	3,88E-06	2,30E-05	3,07E-03
ADPE	MJ	477,66	24,64	42,05	544,35	626,97	25,91	60,27	713,15

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

Resource use		BA 2.0 without wheels				BA 2.0 with wheels			
Parameter	Unit	A1	A2	A3	A1-A3	A1	A2	A3	A1-A3
RPEE	MJ	65,55	0,39	107,77	173,72	160,26	0,41	165,23	325,90
RPEM	MJ	7,53	0,08	52,61	60,22	21,76	0,09	79,44	101,29
TPE	MJ	73,08	0,47	160,38	233,94	182,02	0,49	244,67	427,19
NRPE	MJ	531,08	25,34	121,22	677,64	857,79	26,64	188,01	1072,44
NRPM	MJ	67,32	0,00	1,25	68,57	79,38	0,00	1,25	80,63
TRPE	MJ	598,39	25,34	122,48	746,21	937,16	26,64	189,27	1153,07
SM	kg	2,58	0	0	2,58	8,33	0	0	8,33
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
W	m <sup>3</sup>	0	0	0	0	3,26	5,65E-03	0,17	3,43

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE 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; W Use of net fresh water

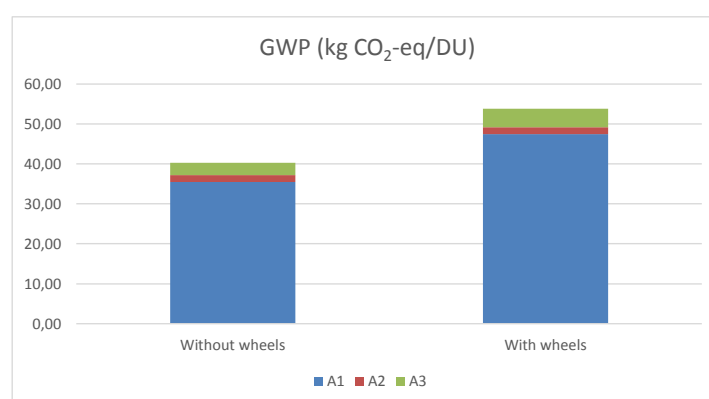
End of life - Waste		BA 2.0 without wheels				BA 2.0 with wheels			
Parameter	Unit	A1	A2	A3	A1-A3	A1	A2	A3	A1-A3
HW	kg	0,02	1,44E-05	9,25E-05	0,02	1,01	1,52E-05	1,38E-04	1,01
NHW	kg	12,34	0,96	1,56	14,86	18,04	1,03	2,38	21,45
RW	kg	0	0	0	0	0	0	0	0

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

End of life - Output flow		BA 2.0 without wheels				BA 2.0 with wheels			
Parameter	Unit	A1	A2	A3	A1-A3	A1	A2	A3	A1-A3
CR	kg	0	0	0	0	0	0	0	0
MR	kg	0,22	0	0	0,22	1,22	0	0	1,22
MER	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0
ETE	MJ	0	0	0	0	0	0	0	0

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

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



## Additional Norwegian requirements

### Greenhouse gas emission from the use of electricity in the manufacturing phase

The following data from Ecoinvent version 3 (Weidema et al. 2013)) for Swedish production mix included import, low voltage is used; Electricity, low voltage {SE}| market for | Alloc Rec, U. Production of transmission lines, in addition to direct emissions and

Data source	Amount	Unit
Ecoinvent v3 (jWeidema et al. 2013)	62,9	g CO <sub>2</sub> -eq/kWh

### Dangerous substances

- The product contains no substances given by the REACH Candidate list (The European parliament 2006, European Chemicals Agency 2015) or the Norwegian priority list (Norwegian Environment Agency 2015).
- The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.
- The product contain dangerous substances, more then 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.
- The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskitfen, Annex III), see table.

### Indoor environment





No tests have been carried out on the product concerning indoor climate

### Carbon footprint

Carbon footprint has not been worked out for the product.

## Bibliography

ISO 14025:2010	<i>Environmental labels and declarations - Type III environmental declarations - Principles and procedures</i>
ISO 14044:2006	<i>Environmental management - Life cycle assessment - Requirements and guidelines</i>
Anderson, Bengt-Åke. 2014	<i>Provning av Back App Office med 3-ekrad aluminiumfot. Sveriges Tekniska Forskningsinstitut</i>
Askham, C. and Soldal, E. 2015	<i>LCA report BackApp AS.</i>
Bergstrand, Anna. 2013a	<i>Ignitability of upholstered furniture according to EN 1021-1 and EN 1021-2. Technical Research Institute of Sweden.</i>
Bergstrand, Anna. 2013b	<i>Ignitability of upholstered furniture according to BS 5852: Part 1. Technical Research Institute of Sweden.</i>
European Chemicals Agency. 2015	<i>Candidate List of substances of very high concern for Authorisation. Last updated: 15/06/2015. <a href="http://echa.europa.eu/candidate-list-table">http://echa.europa.eu/candidate-list-table</a>.</i>
Norwegian Environment Agency. 2015	<i>List of Priority Substances. Published 03.09.2015. <a href="http://www.environment.no/topics/hazardous-chemicals/lists-of-hazardous-substances/list-of-priority-substances/">http://www.environment.no/topics/hazardous-chemicals/lists-of-hazardous-substances/list-of-priority-substances/</a></i>
PCR NPCR 003:2015	<i>Seating</i>
Stare, Ann. 2012	<i>Determination of abrasion resistance of fabrics by the Martindale method and Resistance to pilling and surface fuzzing. Swerea IVF AB.</i>
The European Parliament and the Council of the European Union. 2006	<i>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)</i>
Weidema, B., Bauer, C., Hischer, R., Mutel, C., Nemecek, T., Reinhard, J., Vadenbo, C.O., 2013	<i>The Ecoinvent database: Overview and methodology, Data quality guideline for the Ecoinvent database version 3.</i>

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