

ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

Owner of the declaration:	Flokk AS
Program operator:	The Norwegian EPD Foundation
Publisher:	The Norwegian EPD Foundation
Declaration number:	NEPD-3558-2150-EN
Registration number:	NEPD-3558-2150-EN
ECO Platform reference number:	-
Issue date:	10.06.2022
Valid to:	10.06.2027

Profim REVO collection

Flokk AS

www.epd-norge.no




profim

General information

Product:

Profim REVO collection

Program operator:

The Norwegian EPD Foundation
Pb. 5250 Majorstuen, 0303 Oslo
Phone: +47 23 08 80 00
e-mail: post@epd-norge.no

Declaration number:

NEPD-3558-2150-EN

ECO Platform reference number:

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A1:2013 serves as core PCR
NPCR 026:2018 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 Profim REVO collection

Declared unit with option:

A1,A2,A3,A4

Functional unit:

Revo seat 1200 with backrest 900 - as reference. Additional environmental information for the all Revo collection - please see page no. 8.

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. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. 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 EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Erik Svanes, Norsus AS

(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

Manufacturer:

Flokk AS
Drammensveien 145, 0277 Oslo
Norway

Place of production:

Flokk - Turek
ul. Górnicza 8 62-700 Turek
Poland

Management system:

ISO 14001, ISO 9001, ISO 50001(Norway, Sweden)

Organisation no:

No 928 902 749

Issue date:

10.06.2022

Valid to:

10.06.2027

Year of study:

2022

Comparability:

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

Development and verification of EPD:

The declaration has been developed and verified using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS. The EPD tool is integrated into the company's environmental management system, and has been approved by EPD-Norway

Developer of EPD:

Damian Bakowski

Reviewer of company-specific input data and EPD:

Arleta Derdziak

Approved:

Sign

Håkon Hauan, CEO EPD-Norge

Key environmental indicators	Unit	Cradle to gate A1 - A3
Global warming	kg CO2 eqv	96,71
Total energy use	MJ	2302,35
Amount of recycled materials	%	13,11

Product

Market:

Worldwide

Product description:

Revo modular sofa family offers single, double, and two-meter seats in the characteristic shape of a teardrop. Decorative, but also practically, we can even play with the selection of backrest, panels and tables. Not arbitrarily, but in an interesting and beautiful way, adapting to the very individual needs of the interior. Revo is the possibility of individualization and cooperation at the same time. Mutes and enlivens offices. It is suitable for any office, co-working, common space or reception, where employees will find a piece of home they are used to working from. The organic, subtle form of the collection even decorates the office space. It encourages you to sit down for a while, talk, drink a coffee, exchange informal opinions, conduct a workshop, have an on-line interview, create an almost perfect action plan.

Product specification

acc. Revo Product Factsheet.

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Steel	3,97	12,19	0,74	18,75
Textile - Polyester (PE)	1,36	4,16	1,32	97,38
Plastic - Polyurethane (PUR)	6,84	21,01	0,00	0,00
Plastic - Polypropylene (PP)	0,08	0,24	0,00	0,00
Plastic - Polyoxymethylene (POM)	0,05	0,15	0,00	0,00
Wood - Plywood	8,80	27,03	0,00	0,00
Powder coating	0,04	0,13	0,00	0,00
Lacquer, water based	0,06	0,18	0,00	0,00
Plastic - Nylon (PA)	0,18	0,54	0,00	0,00
Expanded polypropylene (EPP)	7,47	22,94	1,72	23,00
Total:	29,56		3,78	

Technical data:

acc. Revo Technical Data.

Reference service life, product

5 years

Reference service life, building

LCA: Calculation rules

Declared unit:

1 Pcs Profim REVO collection

Cut-off criteria:

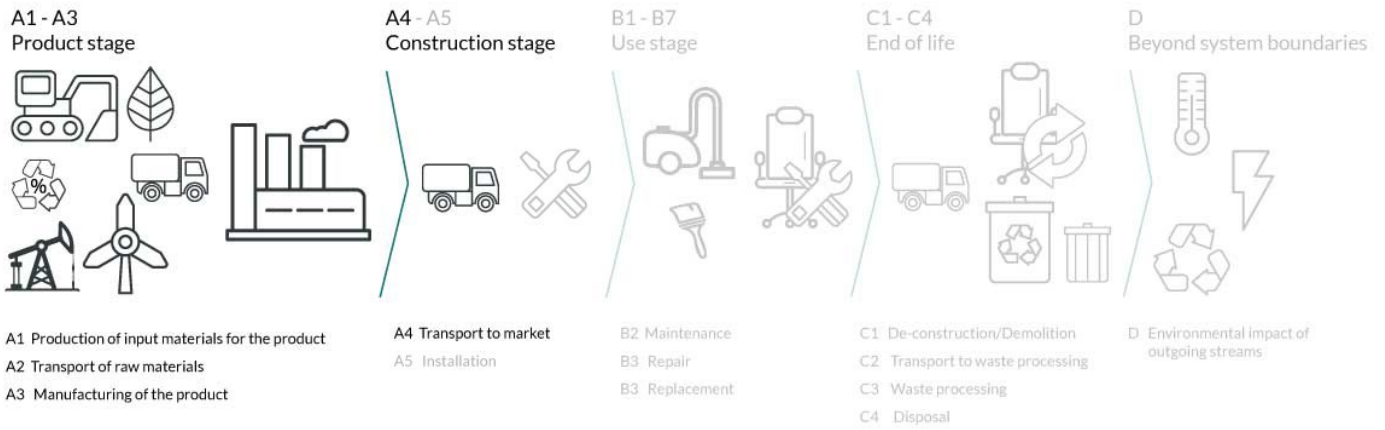
All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

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
Plastic - Polyoxymethylene (POM)	ecoinvent 3.4	Database	2015
Plastic - Polypropylene (PP)	ecoinvent 3.4	Database	2015
Plastic - Polyurethane (PUR)	ecoinvent 3.4	Database	2015
Metal - Steel	ecoinvent 3.3	Database	2016
Lacquer, water based	ecoinvent 3.4	Database	2017
Metal - Steel	ecoinvent 3.4	Database	2017
Textile - Polyester (PE)	ecoinvent 3.4	Database	2017
Wood - Plywood	ecoinvent 3.4	Database	2017
Powder coating	ecoinvent 3.5	Database	2018
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Process	ecoinvent 3.6	Database	2019
Expanded polypropylene (EPP)	S-P-02142	EPD	2021

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)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck	38,8 %	Truck, 16-32 tonnes, EURO 5	1000	0,044606	l/tkm	44,61
Railway					l/tkm	
Boat					l/tkm	
Other Transportation					l/tkm	

Assembly (A5)

.	Unit	Value
Auxiliary	kg	
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Material loss	kg	
Output materials for waste treatment	kg	
Dust in the air	kg	
VOC emissions	kg	

Use (B1)

.	Unit	Value

Maintenance (B2)/Repair (B3)

.	Unit	Value
Maintenance cycle*		
Auxiliary		
Other resources		
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Material loss	kg	
VOC emissions	kg	

Replacement (B4)/Refurbishment (B5)

.	Unit	Value
Replacement cycle*		
Electricity consumption	kWh	
Replacement of worn parts		
* Described above if relevant		

Operational energy (B6) and water consumption (B7)

.	Unit	Value
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Power output of equipment	kW	

End of Life (C1, C2)

.	Unit	Value
Hazardous waste disposed	kg	
Collected as mixed construction waste	kg	
Reuse	kg	
Recycling		
Energy recovery		
To landfill	kg	

Transport to waste processing (C2)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck					l/tkm	
Railway					l/tkm	
Boat					l/tkm	
Other Transportation					l/tkm	

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

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

Product stage				Construction installation stage	User 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	Deconstruction 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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	

Environmental impact

Parameter	Unit	A1	A2	A3	A4
GWP	kg CO ₂ -eq	8,43E+01	9,59E-01	1,15E+01	4,81E+00
ODP	kg CFC11 -eq	3,37E-06	1,83E-07	2,34E-07	8,87E-07
POCP	kg C ₂ H ₄ -eq	2,82E-02	1,56E-04	2,62E-03	7,84E-04
AP	kg SO ₂ -eq	3,38E-01	3,09E-03	6,93E-02	1,53E-02
EP	kg PO ₄ ³⁻ -eq	6,94E-02	5,17E-04	8,11E-03	2,54E-03
ADPM	kg Sb -eq	2,11E-04	2,51E-06	3,75E-07	1,47E-05
ADPE	MJ	1,31E+03	1,48E+01	1,16E+02	7,24E+01

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

Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009

*INA Indicator Not Assessed

Resource use

Parameter	Unit	A1	A2	A3	A4
RPEE	MJ	5,88E+02	2,45E-01	1,31E+01	1,06E+00
RPEM	MJ	2,85E+02	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	8,73E+02	2,45E-01	1,31E+01	1,06E+00
NRPE	MJ	1,56E+03	1,52E+01	1,22E+02	7,41E+01
NRPM	MJ	1,42E+02	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	1,71E+03	1,52E+01	1,22E+02	7,41E+01
SM	kg	3,78E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
W	m ³	1,26E+00	3,26E-03	5,24E-02	1,39E-02

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

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

*INA Indicator Not Assessed

End of life - Waste

Parameter	Unit	A1	A2	A3	A4
HW	kg	1,62E-03	8,42E-06	3,14E-02	4,33E-05
NHW	kg	2,51E+01	1,13E+00	4,34E+00	3,90E+00
RW	kg	INA*	INA*	INA*	INA*

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

Parameter	Unit	A1	A2	A3	A4
CR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MR	kg	3,36E-02	0,00E+00	7,67E-01	0,00E+00
MER	kg	0,00E+00	0,00E+00	4,70E-03	0,00E+00
EEE	MJ	INA*	INA*	INA*	INA*
ETE	MJ	INA*	INA*	INA*	INA*

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

*INA Indicator Not Assessed

Additional Norwegian 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	Data source	Amount	Unit
Energy, electricity, Poland: 1 kWh	ecoinvent 3.6	1099,70	g CO2-ekv/kWh

Dangerous substances

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

Indoor environment

Greenguard Gold, Möbelfakta, Blue Angel,

Additional environmental information

Key environmental indicators for variants for this EPD: Cradle to Gate analyse from A1 to A3

Variant number	Global warming (kg CO2)	Total energy use (MJ)	Share of recycled material in product(%)
REVO Pouffe 400	23,28	456,38	24,36
REVO Pouffe 600	30,87	701,36	21,70
REVO Seating 1200	60,82	1 679,08	13,09
REVO Seating 1500	59,39	1 600,58	14,06
REVO Seating 1800	88,80	2 559,83	12,05
REVO Seating 2100	80,37	2 243,80	13,26
REVO Seating 2400	116,21	3 428,79	11,48
REVO Backrest 900	40,09	688,54	13,79
REVO Backrest 1200	47,64	834,90	13,83
REVO Backrest 1800	58,49	1 050,13	15,16
REVO Screen 900	17,45	517,13	23,61
REVO Screen 1200	23,10	722,72	22,02
REVO Screen 1800	33,96	1 069,23	24,29

Key environmental indicators for options for this EPD: Cradle to Gate analyse from A1 to A3

Option number	Global warming (kg CO2)	Total energy use (MJ)	Share of recycled material in product(%)
REVO Table - Coffee 750 HPL	62,52	1 096,59	13,53
REVO Table - Coffee 750 Natural Veneers	58,88	1 021,58	13,22
REVO Table - Coffee 1500 HPL	122,13	2 167,16	13,57
REVO Table - Coffee 1500 Natural Veneers	111,29	1 971,90	13,62
REVO Table - Laptop 480 HPL	35,69	537,75	16,50
REVO Table - Laptop 480 Natural Veneers	34,77	518,66	16,69
REVO Table - Laptop 660x350 HPL	41,28	659,26	15,22
REVO Table - Laptop 660x350 Natural Veneers	39,73	626,92	15,44
REVO Table - Task 750x750 HPL	65,74	1 140,68	13,74
REVO Table - Task 750x750 Natural Veneers	62,07	1 065,24	13,96
REVO Table - Task 1500x750 HPL	124,30	2 190,32	13,82
REVO Table - Task 1550x750 Natural Veneers	117,00	2 040,14	14,05
REVO Table - Task 1800x850 HPL	155,44	2 803,45	13,34
REVO Table - Task 1800x850 Natural Veneers	145,49	2 598,63	13,56

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.

EN 15804:2012+A1:2013 Environmental product declaration - Core rules for the product category of construction products.

ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.

Iversen et al., (2018) eEPD v3.0 - Background information for EPD generator system. LCA.no report number 04.18

Vold et al., (2019) EPD generator for Norsk Industri, Background information for industry application and LCA data, LCA.no report number 06.19.

NPCR Part A: Construction products and services. Ver. 1.0. April 2017, EPD-Norge.

NPCR 026 Part B for Furniture. Ver. 2.0 October 2018, EPD-Norge.



epd-norge

The Norwegian EPD Foundation

Program operator and publisher

The Norwegian EPD Foundation

Post Box 5250 Majorstuen, 0303 Oslo, Norway

Phone: +47 23 08 80 00

e-mail: post@epd-norge.no

web: www.epd-norge.no



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>



Author of the Life Cycle Assessment
LCA.no AS
Dokka 6B 1671 Kråkerøy

Phone: +47 916 50 916
e-mail: post@lca.no
web: www.lca.no



Developer of EPD generator
LCA.no AS
Dokka 1C 1671 Kråkerøy

Phone: +47 916 50 916
e-mail: post@lca.no
web: www.lca.no