



Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Frisbee stool





The Norwegian EPD Foundation

Owner of the declaration:

Kinnarps AB

Product:

Frisbee stool

Declared unit:

1 pc

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-8203-7874-EN

Registration number:

NEPD-8203-7874-EN

Issue date: 22.11.2024

Valid to: 22.11.2029

EPD software:

LCAno EPD generator ID: 632539



General information

Product

Frisbee stool

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway

Phone: +47 977 22 020 web: www.epd-norge.no

Declaration number:

NEPD-8203-7874-EN

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

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 Frisbee stool

Declared unit (cradle to gate) with option:

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

Functional unit:

Production of one Frisbee stool, provided and maintained for a period of 15 years.

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

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)

Owner of the declaration:

Kinnarps AB

Contact person: Johanna Ljunggren - Corporate Sustainability

Manager

Phone: +46 515 381 21

e-mail: johanna.ljunggren@kinnarps.se

Manufacturer:

Kinnarps AB

Place of production:

Kinnarps AB Industrigatan 521 88 Kinnarp, Sweden

Management system:

ISO 9001, ISO 14001, ISO 45001

Organisation no:

556256-6736

Issue date:

22.11.2024

Valid to:

22.11.2029

Year of study:

2023

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

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: Isabell Vesterberg

Reviewer of company-specific input data and EPD: Rickard Thil

Approved:

Hakon Hauan

Managing Director of EPD-Norway



Product

Product description:

Frisbee stool, P252T, with wooden seat and metal underframe.

The Frisbee stool is versatile, with a simple design that is suitable for education, office and healthcare environments. It is lightweight, which makes it easy to move around according to the different needs and activities of the day, providing space-efficient and flexible interior design solutions.

Read more: https://www.kinnarps.com/products/seating/stools/frisbee/?pr=P252%20T

Product specification

Frisbee is available in three different heights to ensure the correct ergonomic position for different table heights. The two higher stools are equipped with a footrest for comfortable support. The stool without a footrest is stackable, which makes it easy to store away. The seat is easy to replace when needed, and provides a circular product that can be maintained over time.

The stool has a simple design that can be placed anywhere and fits into most spaces, which also ensures a long lifecycle.

Choose from plastic glides, which are ideal for furnishing spaces with soft flooring, or felted glides that reduce friction and dampen sound against harder flooring.

This EPD includes the following variants:

P252 - Frisbee with upholstered seat in 100 % recycled polyester fabric

P252 - Frisbee with upholstered seat in wool-blend fabric

P253L - Frisbee medium height with footrest and upholstered seat in 100 % recycled polyester fabric

P253LT - Frisbee medium height with footrest and wooden seat plate

P253 - Frisbee with high underframe and upholstered seat in 100 % recycled polyester fabric

P253T - Frisbee with high underframe and wooden seat plate

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Paint, water-based	0,02	0,64	0,00	0,00
Plastic - Polyethylene (LDPE)	0,02	0,48	0,00	0,00
Wood - Plywood	1,27	38,57	0,00	0,00
Metal - Steel	1,99	60,31	0,06	2,79
Total	3,30	100,00	0,06	

Technical data:

Frisbee is certified according to:

Swedish Möbelfakta

Fulfilled technical standards:

EN 16139 - Furniture - Strength, durability and safety - Requirements for non-domestic seating

Fulfilled fire requirements, for upholstered variants:

EN 1021-1 Assessment of the ignitability of upholstered furniture – Part 1: Ignition source smouldering cigarette, with Kinnarps standard fabrics

EN 1021-2 Assessment of the ignitability of upholstered furniture - Part 2: Ignition source match flame equivalent, with Kinnarps standard fabrics

Market:

Mainly Europe, but is available worldwide

Reference service life, product

15 years.

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs Frisbee stool

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 - Steel	ecoinvent 3.6	Database	2019
Metal - Steel	S-P-02242	EPD	2020
Paint, water-based	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (LDPE)	ecoinvent 3.6	Database	2019
Wood - Plywood	modified ecoinvent 3.6	Database	2019



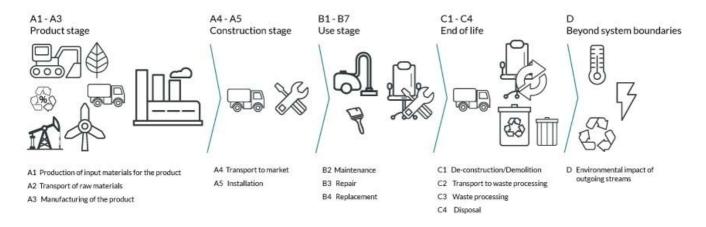
System boundaries (X=included, MND=module not declared, MNR=module not relevant)

P	roduct stag	je		ruction ion stage				Use stage				End of life stage			Beyond the system boundaries	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refu <i>r</i> bishment	Operational energy use	Operational water use	De- construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling-potential
A1	A2	A3	A4	A5	B1	B2	В3	B4	В5	В6	В7	C1	C2	C3	C4	D
Χ	X	Χ	Χ	Χ	MND	Χ	Χ	Χ	MND	MND	MND	X	Χ	Χ	Χ	X

System boundary:

The upholstering is manufactured at Kinnarps' production site in Skillingaryd, where the fabric is also processed. The metal underframe is manufactured at Kinnarps' production site in Jönköping. The wooden seat plate is manufactured at Kinnarps' production site in Kinnarp, where the product is also finally assembled.

The flow chart below illustrates the system boundaries of the analysis.



Additional technical information:



LCA: Scenarios and additional technical information

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

The product is shipped to the consumer in Kinnarps' trucks with blankets and cardboard sheets as packaging material which is returned to the factory after delivery and reused. This method saves 270 kg of packaging material per container and enables 50% more products to be transported in each truck. Kinnarps' trucks have a load efficiency of approximately 87 % and are run on fuel with renewable content, HVO. For more information about sustainability at Kinnarps, visit https://www.kinnarps.com/about-kinnarps/sustainability/.

The maintenance scenario for Frisbee stools with wooden seat plate includes wet-wiping once a week for the whole reference service life.

The maintenance scenario for Frisbee stools with upholstered seat includes vacuum cleaning of textiles once a week for the whole reference service life

In normal use, no repair or replacement is required during the product's referenced service life.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, HVO, EURO 6 (kgkm)	36,7 %	300	0,043	l/tkm	12,90
Maintenance (B2)	Unit	Value			
Water, tap water (m3)	m3/DU	0,78			
Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne
ruck, over 32 tonnes, EURO 6 (km)	53,3 %	85	0,023	l/tkm	1,96
Waste processing (C3)	Unit	Value			
Naste treatment per kg Wood, incineration with ily ash extraction (kg)	kg	1,27			
Waste, materials to recycling (kg)	kg	0,68			
Naste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	1,99			
Waste treatment per kg Polyethylene, PE, ncineration with fly ash extraction - C3 (kg)	kg	0,02			
Disposal (C4)	Unit	Value			
andfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0,01			
andfilling of ashes and residues from ncineration of Scrap steel (kg)	kg	1,32			
andfilling of ashes from incineration of Polyethylene, PE, process per kg ashes and esidues - C4 (kg)	kg	0,00			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	13,87			
Substitution of electricity, in Norway (MJ)	MJ	0,92			
Substitution of primary steel with net scrap (kg)	ka	0.62			



LCA: Results

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

Environme	ental impact								
	Indicator		Unit		A1-A3	A4	A5	B2	В3
	GWP-total		kg CO ₂ -e	eq	4,66E+00	3,85E-02	0	2,69E-01	0
	GWP-fossil	GWP-fossil		kg CO ₂ -eq		3,84E-02	0	2,67E-01	0
	GWP-biogenic		kg CO ₂ -e	eq	-2,03E+00	6,51E-05	0	1,68E-03	0
	GWP-luluc		kg CO ₂ -e	eq	4,22E-02	5,99E-05	0	4,35E-04	0
Ö	ODP		kg CFC11 -	-eq	2,72E-07	7,92E-09	0	2,37E-08	0
	АР		mol H+ -	eq	2,58E-02	2,69E-04	0	1,56E-03	0
*	EP-FreshWater		kg P -ec	I	1,25E-04	1,41E-06	0	2,14E-05	0
*	EP-Marine		kg N -ed	1	6,19E-03	7,12E-05	0	2,48E-04	0
	EP-Terrestial		mol N -e	q	7,11E-02	7,97E-04	0	2,88E-03	0
	POCP		kg NMVOC	-eq	2,02E-02	2,92E-04	0	9,05E-04	0
	ADP-minerals&metals ¹		kg Sb-ed	7	3,71E-05	4,67E-06	0	7,48E-06	0
3	ADP-fossil ¹		МЈ		9,89E+01	8,13E-01	0	4,57E+00	0
<u></u>	WDP ¹		m ³		1,99E+03	2,41E+00	0	8,18E+01	0
	Indicator		Unit	B4	C1	C2	C3	C4	D
	Indicator GWP-total		Unit kg CO ₂ -eq	B4 0	C1 0	C2 2,44E-02	C3 2,20E+00	C4 1,48E-02	D -7,67E-01
	GWP-total	l	kg CO ₂ -eq	0	0	2,44E-02	2,20E+00	1,48E-02	-7,67E-01
	GWP-total GWP-fossil	I	kg CO ₂ -eq kg CO ₂ -eq	0	0	2,44E-02 2,44E-02	2,20E+00 7,32E-02	1,48E-02 1,48E-02	-7,67E-01 -7,63E-01
	GWP-total GWP-fossil GWP-biogenic	1	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq	0 0	0 0	2,44E-02 2,44E-02 1,05E-05	2,20E+00 7,32E-02 2,12E+00	1,48E-02 1,48E-02 1,11E-05	-7,67E-01 -7,63E-01 -5,43E-04
	GWP-total GWP-fossil GWP-biogenic GWP-luluc	l k	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq	0 0 0	0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06	2,20E+00 7,32E-02 2,12E+00 5,14E-06	1,48E-02 1,48E-02 1,11E-05 4,47E-06	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP	l k	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq	0 0 0 0	0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP	l k	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq mol H+ -eq	0 0 0 0 0	0 0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09 7,87E-05	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09 2,74E-04	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09 1,05E-04	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03 -4,06E-03
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater	kı	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq mol H+ -eq kg P -eq	0 0 0 0 0 0	0 0 0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09 7,87E-05 1,94E-07	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09 2,74E-04 5,77E-07	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09 1,05E-04 1,47E-07	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03 -4,06E-03 -4,92E-05
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	kı	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq mol H+ -eq kg P -eq kg N -eq	0 0 0 0 0 0	0 0 0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09 7,87E-05 1,94E-07 1,72E-05	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09 2,74E-04 5,77E-07 1,24E-04	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09 1,05E-04 1,47E-07 3,73E-05	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03 -4,06E-03 -4,92E-05 -9,19E-04
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	kı	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	0 0 0 0 0 0 0	0 0 0 0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09 7,87E-05 1,94E-07 1,72E-05 1,92E-04	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09 2,74E-04 5,77E-07 1,24E-04 1,33E-03	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09 1,05E-04 1,47E-07 3,73E-05 4,14E-04	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03 -4,06E-03 -4,92E-05 -9,19E-04 -9,52E-03
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	kı	kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq g CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	2,44E-02 2,44E-02 1,05E-05 7,44E-06 5,89E-09 7,87E-05 1,94E-07 1,72E-05 1,92E-04 7,54E-05	2,20E+00 7,32E-02 2,12E+00 5,14E-06 2,23E-09 2,74E-04 5,77E-07 1,24E-04 1,33E-03 3,42E-04	1,48E-02 1,48E-02 1,11E-05 4,47E-06 4,58E-09 1,05E-04 1,47E-07 3,73E-05 4,14E-04 1,19E-04	-7,67E-01 -7,63E-01 -5,43E-04 -3,08E-03 -5,86E-03 -4,06E-03 -4,92E-05 -9,19E-04 -9,52E-03 -4,07E-03

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

Remarks to environmental impacts

[&]quot;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



Additional	environmental impact	indicators						
	Indicator	Unit	Unit			A5	B2	В3
	PM	Disease incidence	Disease incidence			0	1,31E-08	0
[m] P	IRP ²	kgBq U235 -eq	kgBq U235 -eq			0	3,16E-02	0
42	ETP-fw ¹	CTUe	CTUe			0	4,95E+00	0
40.* **** <u>\$</u>	HTP-c ¹	CTUh		7,36E-09	0,00E+00	0	7,39E-10	0
8	HTP-nc ¹	CTUh		4,08E-08	1,98E-09	0	1,64E-08	0
	SQP ¹	dimensionless		3,26E+02	1,51E+00	0	1,28E+00	0
	Indicator	Unit	B4	C1	C2	C3	C4	D
	D14	Diagonal in cidence	0	0	2.245.00	F FFF 00	1 025 00	0.005.00

I I	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	2,24E-09	5,55E-09	1,92E-09	-9,68E-08
	IRP ²	kgBq U235 -eq	0	0	1,73E-03	5,26E-04	1,36E-03	-4,90E-03
<i>(2)</i>	ETP-fw ¹	CTUe	0	0	2,90E-01	1,02E+00	1,99E-01	-4,43E+01
44. *** <u>\$</u>	HTP-c ¹	CTUh	0	0	0,00E+00	1,40E-10	8,00E-12	-3,40E-09
28	HTP-nc ¹	CTUh	0	0	2,81E-10	2,70E-09	1,89E-10	6,54E-08
	SQP ¹	dimensionless	0	0	4,55E-01	4,28E-02	7,39E-01	-8,12E+00

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)

[&]quot;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	В3
	PERE		МЈ	7,19E+01	3,68E-02	0	6,21E-01	0
2	PERM		МЈ	1,78E+01	0,00E+00	0	0,00E+00	0
Ţ,	PERT		МЈ	8,98E+01	3,68E-02	0	6,21E-01	0
	PENRE		МЈ	9,94E+01	8,13E-01	0	4,57E+00	0
<u> An</u>	PENRM		МЈ	6,80E-01	0,00E+00	0	0,00E+00	0
IA	PENRT		МЈ	1,00E+02	8,13E-01	0	4,57E+00	0
	SM		kg	5,82E-02	0,00E+00	0	0,00E+00	0
2	RSF		МЈ	4,13E-02	1,20E-03	0	4,98E-02	0
	NRSF		МЈ	1,65E-01	4,12E-03	0	4,91E-02	0
(%)	FW		m^3	5,68E-02	3,32E-04	0	7,85E-01	0
	ndicator	Unit	B4	C1	C2	C3	C4	D
i.e.							<u> </u>	
G	PERE	MJ	0	0	4,99E-03	8,96E-03	6,27E-03	-7,57E+00
	PERE	WI	0	0	4,99E-03 0,00E+00			
						8,96E-03	6,27E-03	-7,57E+00
2	PERM	МЛ	0	0	0,00E+00	8,96E-03 -1,78E+01	6,27E-03 0,00E+00	-7,57E+00 0,00E+00
i i	PERM PERT	M1 M1	0	0	0,00E+00 4,99E-03	8,96E-03 -1,78E+01 -1,78E+01	6,27E-03 0,00E+00 6,27E-03	-7,57E+00 0,00E+00 -7,57E+00
I F	PERM PERT PENRE	M1 M1	0 0	0 0 0	0,00E+00 4,99E-03 3,97E-01	8,96E-03 -1,78E+01 -1,78E+01 2,23E-01	6,27E-03 0,00E+00 6,27E-03 3,39E-01	-7,57E+00 0,00E+00 -7,57E+00 -6,89E+00
I I I	PERM PERT PENRE PENRM	MI MI MI	0 0 0 0	0 0 0	0,00E+00 4,99E-03 3,97E-01 0,00E+00	8,96E-03 -1,78E+01 -1,78E+01 2,23E-01 -6,80E-01	6,27E-03 0,00E+00 6,27E-03 3,39E-01 0,00E+00	-7,57E+00 0,00E+00 -7,57E+00 -6,89E+00 0,00E+00
	PERM PERT PENRE PENRM PENRT	MJ MJ	0 0 0 0	0 0 0 0	0,00E+00 4,99E-03 3,97E-01 0,00E+00 3,97E-01	8,96E-03 -1,78E+01 -1,78E+01 2,23E-01 -6,80E-01 -4,57E-01	6,27E-03 0,00E+00 6,27E-03 3,39E-01 0,00E+00 3,39E-01	-7,57E+00 0,00E+00 -7,57E+00 -6,89E+00 0,00E+00 -6,89E+00
	PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ kg	0 0 0 0 0	0 0 0 0 0	0,00E+00 4,99E-03 3,97E-01 0,00E+00 3,97E-01 0,00E+00	8,96E-03 -1,78E+01 -1,78E+01 2,23E-01 -6,80E-01 -4,57E-01 0,00E+00	6,27E-03 0,00E+00 6,27E-03 3,39E-01 0,00E+00 3,39E-01 0,00E+00	-7,57E+00 0,00E+00 -7,57E+00 -6,89E+00 0,00E+00 -6,89E+00 0,00E+00

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 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		Uı	nit	A1-A3	A4	A5	B2	В3
	HWD	HWD		kg		1,14E-04	0	8,64E-04	0
	NHWD		k	g	1,20E+00	1,21E-01	0	5,55E-02	0
₩	RWD		kg		1,18E-03	3,26E-06	0	2,68E-05	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
ā	HWD		kg	0	0	2,17E-05	0,00E+00	1,32E+00	-3,60E-03
Ū	NHWD		kg	0	0	3,45E-02	0,00E+00	1,16E-02	-3,06E-01
æ	RWD		kg	0	0	2,71E-06	0,00E+00	2,07E-06	-4,14E-06

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								
Ind	icator	Ur	Unit		A4	A5	B2	В3
®	CRU	k	9	0,00E+00	0,00E+00	0	0,00E+00	0
\$>	MFR	k	9	6,81E-01	0,00E+00	0	0,00E+00	0
DF	MER	k	9	9,31E-02	0,00E+00	0	0,00E+00	0
50	EEE	M	J.	5,87E-02	0,00E+00	0	0,00E+00	0
DB.	EET	N	IJ	8,88E-01	0,00E+00	0	0,00E+00	0
Indicato	or	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	6,76E-01	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	3,28E+00	0,00E+00	0,00E+00
50	EEE	MJ	0	0	0,00E+00	9,72E-01	0,00E+00	0,00E+00
D	EET	MJ	0	0	0,00E+00	1,47E+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								
Unit	At the factory gate							
kg C	5,79E-01							
kg C	0,00E+00							
	kg C							

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, Sweden (kWh)	ecoinvent 3.6	54,94	g CO2-eq/kWh

Dangerous substances

The product contains substances given by the REACH Candidate list that are less than 0,1 % by weight.

Indoor environment

The product is low-emitting and tested according to Swedish Möbelfakta.

Additional Environmental Information

Key Environmental Indicators

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO ₂ -eq	4,66	0,04	7,21	6,44
Total energy consumption	MJ	171,54	0,85	178,68	164,53
Amount of recycled materials	%	1,67			

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit		A1-A3	A4	A5	B2	В3
GWPIOBC	kg CO ₂ -eq	kg CO ₂ -eq		3,85E-02	0	2,69E-01	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	0	0	2,44E-02	7,34E-02	1,48E-02	-1,10E+00

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 (%)		
Frisbee - P252 - Upholstered seat - 100 % recycled polyester fabric	3,10	7,65	176,59	9,42		
Frisbee - P252 - Upholstered seat - Wool blend fabric	3,20	27,09	278,82	1,86		
Frisbee - P253L - Medium Height - Upholstered seat - 100 % recycled polyester fabric	4,20	11,87	247,43	12,04		
Frisbee - P253LT - Medium height - Wooden seat	4,40	9,02	244,91	6,12		
Frisbee - P253 - High underframe - Upholstered seat - 100 % recycled polyester fabric	4,60	12,97	263,50	11,24		
Frisbee - P253T - High underframe - Wooden seat	4,80	10,18	264,09	5,81		



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