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Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Dix Stool - Article number 203.600.005

Svedholm
MADE IN SWEDEN

EPD-Global

Owner of the declaration:
Svedholm Design AB

Product:
Dix Stool - Article number 203.600.005

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 026:2024 Part B for Furniture

Program operator:
EPD-Global

Declaration number:

Issue date:

Valid to:

EPD software:
LCAno EPD generator ID: 1714896

General information

Product

Dix Stool - Article number 203.600.005

Owner of the declaration:

Svedholm Design AB
Contact person: Jan Svedholm
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Program operator:

EPD-Global
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Phone: +47 977 22 020
web: www.epd-global.com

Manufacturer:

Svedholm Design AB

Declaration number:

Place of production:

Svedholm Design AB
Örbygatan 5
753 24 Uppsala, Sweden

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 026:2024 Part B for Furniture

Management system:

Statement of liability:

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

Organisation no:

556640-1716

Declared unit:

1 pcs Dix Stool - Article number 203.600.005

Issue date:

Declared unit (cradle to gate) with option:

A1-A3, A4, A5, C1, C2, C3, C4, D

Valid to:

Year of study:

2025

Functional unit:

DIX is a stool with seat in tanned leather and with a base made of powder coated wire. All colours are available upon request.

Comparability:

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not viewed in a building context.

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-Global'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-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

Development and verification of EPD:

The declaration is created using EPD generator v2025.09, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global.

Developer of EPD: Simone Svedholm

Reviewer of company-specific input data and EPD: Jan Svedholm

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools.

Approved:

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Product

Product description:

DIX is a stool with seat in tanned leather and with a base made of powder coated wire. All colours are available upon request. DIX is produced for the contract market. Its sharp, timeless, high-quality design qualifies for spaces and interiors that last. It's produced in long lasting materials being a long-term sustainable choice and is covered by our return deposit scheme.
https://www.svedholm.se/en/products/seatings/dix-stool

Product specification

Material:
Steel wire
Tanned leather

Surface treatment:
Powder coating

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Leather	0.23	5.08	0.00	0.00
Metal - Stainless steel	0.007	0.1547	0.00497	71.00
Metal - Steel	2.29	50.53	2.29	100.00
Plastic - Polyurethane (PUR)	0.364	8.05	0.00	0.00
Powder coating	0.02	0.4421	0.00	0.00
Wood - Chipboard	1.62	35.74	0.00	0.00
Total	4.52	100.00	2.29	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Foam sheet	0.01	1.17	0.00	0.00
Recycled cardboard	0.845	98.83	0.845	100.00
Total incl. packaging	5.38	100.00	3.14	

Technical data:

Dimensions:
Diameter 450 mm
Height 400 mm

https://www.svedholm.se/media/pages/produkter/sittmobel/dix-pall/5e8a996c7a-1566935580/dix_pall_en_190412.pdf

Market:

Scandinavia

Reference service life, product

Expected lifetime is 15 years, provided proper installation and ambient humidity and temperature.

Reference service life, building

Not relevant

LCA: Calculation rules

Declared unit:

1 pcs Dix Stool - Article number 203.600.005

Cut-off criteria:

All major raw materials and all the essential energy are included. The production processes for raw materials and energy flows with very small amounts (less than 1%) may not be 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:

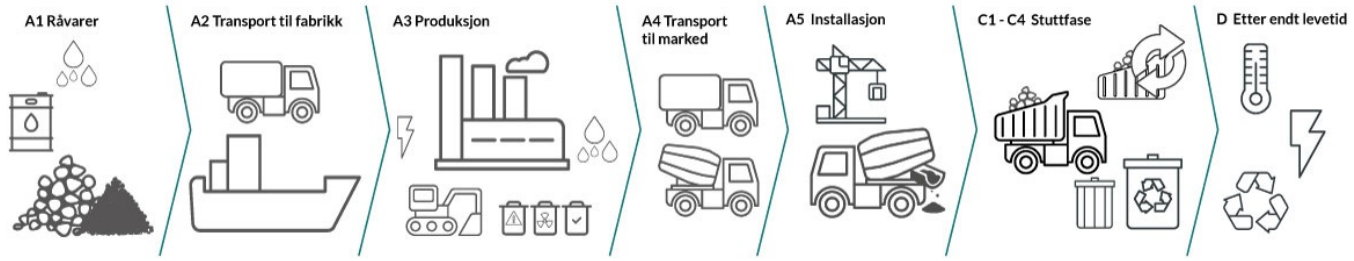
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Leather	Modified ecoinvent 3.10.1	Database	2023
Metal - Stainless steel	Modified ecoinvent 3.10.1	Database	2023
Metal - Steel	S-P-04910	EPD	2020
Packaging - Foam sheet	Modified ecoinvent 3.10.1	Database	2023
Plastic - Polyurethane (PUR)	ecoinvent 3.10.1	Database	2023
Powder coating	ecoinvent 3.10.1	Database	2023
Recycled cardboard	Modified ecoinvent 3.10.1	Database	2023
Wood - Chipboard	Modified ecoinvent 3.10.1	Database	2023

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

Product stage			Construction installation 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	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

System boundary:



Additional technical information:

Maintenance and service guides:
https://www.svedholm.se/media/pages/produkter/sittmobel/dix-pall/3a0dc80140-1680774094/svedholm_en_maintenance_dix-stool_2023-03-23.pdf

LCA: Scenarios and additional technical information

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

The following information describes the scenarios in the different modules of the EPD.
Usage scenario assumes no repair or replacement and minimal maintenance during the 15 years' lifespan of the product, as materials and surface treatments are selected to require servicing during lifetime of product. The installation location is assumed to be within Sweden.
Reparation, replacement, and refurbishment are possible, please contact Svedholm Design for further information for possible solutions.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, EURO 6 (km)	55.0 %	395.00	0.023	l/tkm	9.09

Assembly (A5)	Unit	Value			
Waste, packaging, LDPE, foam sheet, to average treatment (kg) - A5, inkl. 85 km transp.	kg	0.01			
Waste, packaging, cardboard, 100 % recycled, to average treatment (kg)	kg	0.845			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, EURO 6 (km)	55.0 %	30.00	0.023	l/tkm	0.69

Waste processing (C3)	Unit	Value			
Waste, materials to recycling (kg)	kg	0.778			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	2.29			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0.25			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	1.62			
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	0.364			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity (MJ)	MJ	0.8705			
Substitution of thermal energy, district heating (MJ)	MJ	0.1691			
Substitution of primary steel with net scrap (kg)	kg	-1.51			

LCA: Results

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

Environmental impact										
	Indicator	**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	6.31E+00	2.20E-01	1.32E+00	0	1.67E-02	4.09E+00	0	7.68E-01
	GWP-fossil	kg CO_2 -eq	7.62E+00	2.20E-01	2.96E-02	0	1.67E-02	1.15E+00	0	7.56E-01
	GWP-biogenic	kg CO_2 -eq	-1.67E+00	1.43E-04	1.29E+00	0	1.08E-05	2.94E+00	0	1.16E-02
	GWP-luluc	kg CO_2 -eq	3.67E-01	8.56E-05	5.34E-06	0	6.50E-06	2.10E-05	0	1.03E-03
	ODP	kg CFC11 -eq	1.17E-07	4.25E-09	3.17E-10	0	3.23E-10	1.96E-09	0	-7.14E-05
	AP	mol H+ -eq	6.64E-02	5.19E-04	6.20E-05	0	3.94E-05	1.30E-03	0	3.02E-03
	EP-FreshWater	kg P -eq	1.84E-03	1.54E-05	1.16E-06	0	1.17E-06	4.85E-05	0	3.99E-04
	EP-Marine	kg N -eq	3.79E-02	1.36E-04	2.70E-05	0	1.03E-05	8.90E-04	0	6.60E-04
	EP-Terrestial	mol N -eq	2.24E-01	1.47E-03	2.47E-04	0	1.12E-04	6.80E-03	0	6.70E-03
	POCP	kg NMVOC -eq	2.90E-02	9.02E-04	9.05E-05	0	6.85E-05	1.75E-03	0	2.18E-03
	ADP-minerals&metals[1]	kg Sb-eq	5.86E-05	6.29E-07	5.16E-08	0	4.78E-08	2.36E-07	0	1.15E-06
	ADP-fossil[1]	MJ	1.28E+02	3.30E+00	2.11E-01	0	2.51E-01	1.12E+00	0	1.08E+01
	WDP[1]	m^3	7.48E+01	1.69E-02	6.21E-03	0	1.28E-03	1.47E-01	0	1.35E-01

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

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

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

Remarks to environmental impacts

The LCA results in the EPD are calculated using a specific methodological approach for accounting energy resources, see the additional requirements section for more information. In this EPD the following approach was used: Location-based approach.

Not relevant

Additional environmental impact indicators										
Indicator		**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
	PM	Disease incidence	6.99E-07	2.12E-08	1.22E-09	0	1.61E-09	1.18E-08	0	7.69E-08
	IRP[2]	kgBq U235 -eq	2.36E+00	3.98E-03	3.01E-04	0	3.02E-04	2.03E-03	0	2.01E-01
	ETP-fw[1]	CTUe	1.90E+02	3.89E-01	1.67E-01	0	2.95E-02	3.72E+00	0	2.55E+00
	HTP-c[1]	CTUh	3.44E-08	0.00E+00	4.00E-12	0	0.00E+00	1.71E-10	0	3.91E-09
	HTP-nc[1]	CTUh	5.30E-06	2.13E-09	3.13E-10	0	1.61E-10	6.32E-09	0	1.09E-08
	SQP[1]	dimensionless	1.08E+03	3.32E+00	1.22E-01	0	2.52E-01	7.54E-01	0	2.84E+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)

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

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	C1	C2	C3	C4	D
	PERE	MJ	3.13E+01	5.37E-02	4.23E-03	0	4.08E-03	3.75E-02	0	7.92E-01
	PERM	MJ	3.10E+01	0.00E+00	-1.08E+01	0	0.00E+00	-2.01E+01	0	0.00E+00
	PERT	MJ	6.22E+01	5.37E-02	-1.08E+01	0	4.08E-03	-2.01E+01	0	7.92E-01
	PENRE	MJ	1.15E+02	3.30E+00	2.11E-01	0	2.51E-01	1.12E+00	0	1.08E+01
	PENRM	MJ	1.39E+01	0.00E+00	-4.60E-01	0	0.00E+00	-1.34E+01	0	0.00E+00
	PENRT	MJ	1.29E+02	3.30E+00	-2.50E-01	0	2.51E-01	-1.23E+01	0	1.08E+01
	SM	kg	3.30E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	1.71E+00
	RSF	MJ	2.75E+00	1.80E-05	1.55E-06	0	1.37E-06	2.60E-05	0	1.52E-04
	NRSF	MJ	3.67E-01	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	-5.11E-03
	FW	m^3	1.88E-01	4.87E-04	1.11E-04	0	3.70E-05	2.48E-03	0	6.90E-03

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 excluding 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"

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	HWD	kg	3.80E-01	4.77E-03	4.56E-04	0	3.63E-04	0.00E+00	0	5.91E-01
	NHWD	kg	9.78E+00	9.56E-02	7.83E-02	0	7.26E-03	4.52E+00	0	1.75E+00
	RWD	kg	6.48E-04	9.84E-07	6.26E-08	0	7.47E-08	0.00E+00	0	5.16E-05

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"

End of life - Output flow

Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
	MFR	kg	3.02E-01	0.00E+00	7.89E-01	0	0.00E+00	1.86E+00	0	0.00E+00
	MER	kg	0.00E+00	0.00E+00	1.25E-10	0	0.00E+00	3.64E-01	0	0.00E+00
	EEE	MJ	1.07E-05	0.00E+00	1.24E-05	0	0.00E+00	8.70E-01	0	0.00E+00
	EET	MJ	4.72E-05	0.00E+00	1.39E-05	0	0.00E+00	1.69E-01	0	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"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	8.01E-01
Biogenic carbon content in accompanying packaging	kg C	3.53E-01

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

The EPD presents environmental impact categories in the main results tables using a specific methodological approach for accounting energy resources. To ensure transparency and support informed interpretation, the table below explains the implications of the chosen methodology. It illustrates the GWP-total for energy resources used in the manufacturing stage, comparing the location-based and market-based approaches. In this EPD the following approach was used in main result tables: Location-based approach.

Electricity mix	Source	Amount	Unit	GWPtotal [kg CO2/Unit]	SUM [kg CO2]
Location-based approach.					
Electricity, Sweden, low voltage (kWh)	ecoinvent 3.10.1	6.34E+00	kWh	3.77E-02	2.39E-01
Market-based approach.					
Electricity, Sweden, low voltage, residual mix	ecoinvent 3.10.1	6.34E+00	kWh	6.55E-02	4.15E-01

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

Dangerous substances

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

Indoor environment

Has no impact on inddor environment.

Additional Environmental Information

Key Environmental Indicators

Key environmental performance indicators	Unit	Product stage	Construction stage		End-of-life				Net benefits and loads from reuse, recovery, and/or recycling
		A1-A3	A4	A5	C1	C2	C3	C4	D
GWPtotal	kg CO_2 -eq	6.31	0.22	1.32	0.00	0.02	4.09	0.00	0.77
Total energy consumption	MJ	149.09	3.35	0.21	0.00	0.25	1.16	0.00	11.62
Share of recycled materials	%	58.30							

Additional environmental impact indicators required in NPCR Part A for construction products									
Indicator	**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	1.09E+01	2.20E-01	2.96E-02	0	1.67E-02	1.15E+00	0	7.58E-01

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.

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
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ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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