

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Boston & Detroit



Owner of the declaration: Johanson Design AB

Product:

Boston & Detroit

Declared unit:

1 pcs

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 026:2022 Part B for Furniture

Boston

Design - Team Johanson

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-5729-5032-EN

Registration number:

NEPD-5729-5032-EN

Issue date: 08.01.2024

Valid to: 08.01.2029

EPD Software:

LCA.no EPD generator ID: 180987

JOHANSON

The Norwegian EPD Foundation

General information

Product

Boston & Detroit

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway The Norwegian EPD Foundation Phone: +47 23 08 80 00 web: post@epd-norge.no

Declaration number:

NEPD-5729-5032-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 Boston & Detroit

Declared unit (cradle to gate) with option:

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

Functional unit:

table legs in various colors and heights.

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:

Johanson Design AB Contact person: Lucas Carlsson Phone: +46 (0) 433 725 00 e-mail: lucas@johansondesign.se

Manufacturer:

Johanson Design AB

Place of production:

Johanson Design AB Anders Anderssons väg 7 285 35 Markaryd, Sweden

Management system:

ISO 14001

Organisation no:

SE556358520601

Issue date: 08.01.2024

Valid to: 08.01.2029

Year of study:

2020

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: Lucas Carlsson

Reviewer of company-specific input data and EPD: Goran Radulovic

Approved:

Håkon Hauan, CEO EPD-Norge

Product

Product description:

Our Boston and Detroit tables stands are designed by Mathias Ljunggren. Two series with different feel but with the same base. Detroit in a low version and Boston in several heights and rectangular table tops.

Boston and Detroit is characterized by the same simple and practical design as other furniture from Johanson. While the base is very simple and thin, it is very stable.

Product specification

This declaration focuses on an in-depth study of Boston 60 - 42

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Steel	4,80	96,42	1,65	34,30
Plastic - Nylon (PA)	0,09	1,77	0,00	0,00
Powder coating	0,09	1,81	0,00	0,00
Total	4,98		1,65	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Plastic straps	0,02	0,77	0,00	0,00
Recycled cardboard	1,93	99,23	1,93	100,00
Total incl. packaging	6,92		3,58	

Technical data:

Total weight: 4,98 kg (excluding packaging)

Total weight: 6,92 kg (including packaging)

Volume 0.22~ m³

Total height 42 cm Total width 60 cm

Möbelfakta certified

https://www.mobelfakta.se/Details.html?id=3983

Market:

World wide

Reference service life, product

15 Years (5 years warranty)

Reference service life, building

LCA: Calculation rules

Declared unit:

1 pcs Boston & Detroit

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.

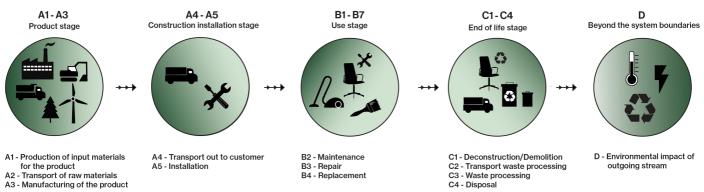
JOHANSON

Materials	Source	Data quality	Year
Packaging - Plastic straps	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Powder coating	Ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Metal - Steel	S-P-08145	EPD	2021

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

	Pı	roduct stag	ge		uction 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> b ishment	Operational energy use	Operational water use	De- construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling-potential
Α	.1	A2	A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
X	<	Х	X	X	X	MND	Χ	Χ	Х	MND	MND	MND	X	Χ	X	Χ	X

System boundary:



Additional technical information:

Data in A3 is gathered from 2020

Data in B2 is calculated:

For Cleaning with wet cloth, Assume 0,001 m3 (1 liter) once a week for 15 years

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)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	150	0,043	l/tkm	6,45
Assembly (A5)	Unit	Value			
Waste, packaging, cardboard, 100 % recycled, to average treatment (kg)	kg	1,93			
Waste, packaging, PET straps, to average treatment - A5 (kg)	kg	0,02			
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)
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	85	0,043	l/tkm	3,66
Waste processing (C3)	Unit	Value			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,09			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,09			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	4,80			
Waste, materials to recycling (kg)	kg	1,63			
Disposal (C4)	Unit	Value			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	3,17			
Landfilling of ashes from incineration of Non- hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,02			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg)	kg	0,00			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	0,19			
Substitution of primary steel with net scrap (kg)	kg	1,07			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	2,85			

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	2,12E+01	1,70E-01	3,31E+00	2,69E-01	0
	GWP-fossil		kg CO ₂ -eq		2,37E+01	1,70E-01	3,24E-02	2,67E-01	0
	GWP-biogenic		kg CO ₂ -e	eq	-2,52E+00	7,02E-05	3,28E+00	1,68E-03	0
	GWP-Iuluc		kg CO ₂ -e	eq	2,81E-02	6,03E-05	1,04E-05	4,35E-04	0
(3)	ODP		kg CFC11 -	-eq	1,91E-06	3,84E-08	6,66E-09	2,37E-08	0
C.	AP		mol H+ -	eq	1,20E-01	4,87E-04	1,49E-04	1,56E-03	0
	EP-FreshWater		kg P -eq	I	7,69E-03	1,35E-06	2,59E-07	2,14E-05	0
	EP-Marine		kg N -ec	1	2,63E-02	9,64E-05	5,02E-05	2,48E-04	0
	EP-Terrestial		mol N -e	q	2,59E-01	1,08E-03	5,35E-04	2,88E-03	0
	POCP		kg NMVOC	-eq	9,63E-02	4,13E-04	1,54E-04	9,05E-04	0
	ADP-minerals&metals ¹		kg Sb -e	q	3,99E-04	4,68E-06	7,66E-07	7,48E-06	0
	ADP-fossil ¹		МЈ		3,13E+02	2,56E+00	4,42E-01	4,57E+00	0
<u>@</u>	WDP ¹		m ³		1,49E+03	2,48E+00	5,71E-01	8,18E+01	0
	****		m ²		1,492+03	2,401+00	3,712 01	0,102+01	Ü
	Indicator	Uni		B4	C1	C2	C3	C4	D
		Uni kg CO ₂	it	B4 0				·	
	Indicator		i t ₂ -eq		C1	C2	C3	C4	D
	Indicator GWP-total	kg CO ₂	it ₂ -eq ₂ -eq	0	C1 0	C2 9,62E-02	C3 4,42E-01	C4 3,41E-02	D -1,20E+00
	Indicator GWP-total GWP-fossil	kg CO ₂	eit 2 -eq 2 -eq 2 -eq	0	C1 0	C2 9,62E-02 9,61E-02	C3 4,42E-01 4,42E-01	C4 3,41E-02 3,40E-02	D -1,20E+00 -1,19E+00
	Indicator GWP-total GWP-fossil GWP-biogenic	kg CO ₂ kg CO ₂	eit 2 -eq 2 -eq 2 -eq 2 -eq	0 0	C1 0 0	C2 9,62E-02 9,61E-02 3,98E-05	C3 4,42E-01 4,42E-01 4,78E-04	C4 3,41E-02 3,40E-02 2,59E-05	D -1,20E+00 -1,19E+00 -6,84E-04
P P P P P P P P P P	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc	kg CO ₂ kg CO ₂ kg CO ₂	eit 2 -eq 2 -eq 2 -eq 2 -eq 2 -eq 11 -eq	0 0 0	0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1	eit 2 -eq 2 -eq 2 -eq 11 -eq + -eq	0 0 0 0	0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1 mol H+	eit 2 -eq 2 -eq 2 -eq 2 -eq 11 -eq + -eq -eq	0 0 0 0 0	0 0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08 2,76E-04	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09 2,41E-04	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08 2,47E-04	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03 -5,99E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1 mol H+	eit 2 -eq 2 -eq 2 -eq 2 -eq 11 -eq 1-eq -eq -eq -eq	0 0 0 0 0 0	0 0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08 2,76E-04 7,68E-07	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09 2,41E-04 9,33E-07	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08 2,47E-04 3,34E-07	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03 -5,99E-03 -7,39E-05
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1 mol H+ kg P-	eit 2 -eq 2 -eq 2 -eq 11 -eq -eq -eq -eq -eq	0 0 0 0 0 0	0 0 0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08 2,76E-04 7,68E-07 5,46E-05	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09 2,41E-04 9,33E-07 9,48E-05	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08 2,47E-04 3,34E-07 8,83E-05	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03 -5,99E-03 -7,39E-05 -1,26E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1 mol H+ kg P- kg N+	eit 2 -eq 2 -eq 2 -eq 11 -eq -eq -eq -eq -eq	0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08 2,76E-04 7,68E-07 5,46E-05 6,11E-04	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09 2,41E-04 9,33E-07 9,48E-05 1,01E-03	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08 2,47E-04 3,34E-07 8,83E-05 9,77E-04	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03 -5,99E-03 -7,39E-05 -1,26E-03 -1,29E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	kg CO ₂ kg CO ₂ kg CO ₂ kg CFC1 mol H+ kg P- kg N- mol N kg NMVC	eit 2 -eq 2 -eq 2 -eq 11 -eq -eq -eq -eq -eq -eq -eq -eq	0 0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0 0	C2 9,62E-02 9,61E-02 3,98E-05 3,42E-05 2,18E-08 2,76E-04 7,68E-07 5,46E-05 6,11E-04 2,34E-04	C3 4,42E-01 4,42E-01 4,78E-04 1,09E-05 4,00E-09 2,41E-04 9,33E-07 9,48E-05 1,01E-03 2,88E-04	C4 3,41E-02 3,40E-02 2,59E-05 1,05E-05 1,09E-08 2,47E-04 3,34E-07 8,83E-05 9,77E-04 2,81E-04	D -1,20E+00 -1,19E+00 -6,84E-04 -1,10E-03 -1,21E-03 -5,99E-03 -7,39E-05 -1,26E-03 -1,29E-02 -6,03E-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 er	nvironmental impac	t indicators						
	Indicator	Unit		A1-A3	A4	A5	B2	В3
	PM	Disease incidence		6,26E-07	1,04E-08	2,21E-09	1,31E-08	0
	IRP ²	kgBq U235 -eq		9,62E-01	1,12E-02	1,89E-03	3,16E-02	0
42	ETP-fw ¹	CTUe		4,16E+02	1,90E+00	5,87E-01	4,95E+00	0
46.* **** <u>!</u>	HTP-c ¹	CTUh		2,30E-08	0,00E+00	1,70E-11	7,39E-10	0
48	HTP-nc ¹	CTUh		3,22E-07	2,08E-09	7,35E-10	1,64E-08	0
	SQP ¹	dimensionless	dimensionless		1,79E+00	3,02E-01	1,28E+00	0
Į.	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	5,88E-09	8,66E-09	4,55E-09	-1,06E-07
	IRP ²	kgBq U235 -eq	0	0	6,35E-03	8,85E-04	3,20E-03	2,72E-03
	ETP-fw ¹	CTUe	0	0	1,08E+00	2,83E+00	4,55E-01	-6,69E+01
44.	HTP-c ¹	CTUh	0	0	0,00E+00	2,55E-10	1,60E-11	-5,69E-09
48	HTP-nc ¹	CTUh	0	0	1,18E-09	2,03E-09	4,09E-10	1,22E-07
	SQP ¹	dimensionless	0	0	1,02E+00	7,01E-02	1,73E+00	-2,32E+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		MJ	4,13E+01	3,67E-02	7,31E-03	6,21E-01	0
	PERM		MJ	1,58E+01	0,00E+00	-1,13E+01	0,00E+00	0
₽	PERT		МЈ	5,71E+01	3,67E-02	-1,13E+01	6,21E-01	0
	PENRE		МЈ	3,60E+02	2,56E+00	4,42E-01	4,57E+00	0
Å	PENRM		МЈ	3,78E+00	0,00E+00	-3,44E-01	0,00E+00	0
IA	PENRT		МЈ	3,64E+02	2,56E+00	9,74E-02	4,57E+00	0
	SM		kg	3,58E+00	0,00E+00	0,00E+00	0,00E+00	0
2	RSF		МЈ	1,01E+00	1,31E-03	2,42E-04	4,98E-02	0
	NRSF		МЈ	1,41E+00	4,69E-03	9,92E-04	4,91E-02	0
%	FW		m ³		2,74E-04	2,09E-04	7,85E-01	0
	ndicator	Unit	B4	C1	C2	C3	C4	D
i T	ndicator PERE	Unit MJ	B4 0	C1 0	C2 2,08E-02	C3 1,66E-02	C4 1,43E-02	D -2,27E+00
S S	PERE	MJ	0	0	2,08E-02	1,66E-02	1,43E-02	-2,27E+00
e I	PERE PERM	M1 M1	0	0	2,08E-02 0,00E+00	1,66E-02 0,00E+00	1,43E-02 0,00E+00	-2,27E+00 0,00E+00
्र (हे) ्र ्र	PERE PERM PERT	MJ MJ	0 0 0	0 0 0	2,08E-02 0,00E+00 2,08E-02	1,66E-02 0,00E+00 1,66E-02	1,43E-02 0,00E+00 1,43E-02	-2,27E+00 0,00E+00 -2,27E+00
्र 4 ्रह्	PERE PERM PERT PENRE	мл мл мл	0 0 0 0	0 0 0	2,08E-02 0,00E+00 2,08E-02 1,45E+00	1,66E-02 0,00E+00 1,66E-02 3,04E-01	1,43E-02 0,00E+00 1,43E-02 8,03E-01	-2,27E+00 0,00E+00 -2,27E+00 -1,01E+01
# # # # #	PERE PERM PERT PENRE PENRM	мл мл мл мл	0 0 0 0	0 0 0 0 0	2,08E-02 0,00E+00 2,08E-02 1,45E+00 0,00E+00	1,66E-02 0,00E+00 1,66E-02 3,04E-01 -3,43E+00	1,43E-02 0,00E+00 1,43E-02 8,03E-01 0,00E+00	-2,27E+00 0,00E+00 -2,27E+00 -1,01E+01 0,00E+00
	PERE PERM PERT PENRE PENRM PENRT	мл мл мл мл мл	0 0 0 0 0	0 0 0 0 0	2,08E-02 0,00E+00 2,08E-02 1,45E+00 0,00E+00 1,45E+00	1,66E-02 0,00E+00 1,66E-02 3,04E-01 -3,43E+00 -3,13E+00	1,43E-02 0,00E+00 1,43E-02 8,03E-01 0,00E+00 8,03E-01	-2,27E+00 0,00E+00 -2,27E+00 -1,01E+01 0,00E+00 -1,01E+01
	PERE PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ kg	0 0 0 0 0 0	0 0 0 0 0 0	2,08E-02 0,00E+00 2,08E-02 1,45E+00 0,00E+00 1,45E+00 0,00E+00	1,66E-02 0,00E+00 1,66E-02 3,04E-01 -3,43E+00 -3,13E+00 0,00E+00	1,43E-02 0,00E+00 1,43E-02 8,03E-01 0,00E+00 8,03E-01 0,00E+00	-2,27E+00 0,00E+00 -2,27E+00 -1,01E+01 0,00E+00 -1,01E+01 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; SM = Use of secondary materials; PENRM = Use of renewable primary energy resources; SM = Use of secondary materials; PENRM = 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		U	nit	A1-A3	A4	A5	B2	В3
Ā	HWD		kg		7,81E-01	1,32E-04	0,00E+00	8,64E-04	0
Ū	NHWD	kg		7,88E+00	1,25E-01	1,95E+00	5,55E-02	0	
æ	RWD		kg		4,14E-03	1,75E-05	0,00E+00	2,68E-05	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
Ā	HWD		kg	0	0	7,49E-05	0,00E+00	3,17E+00	-6,13E-03
Ū	NHWD		kg	0	0	7,06E-02	9,00E-02	2,07E-02	-4,87E-01
3	RWD		kg	0	0	9,90E-06	0,00E+00	4,96E-06	2,01E-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	Indicator			A1-A3	A4	A5	B2	В3
®▷	CRU	kg	kg		0,00E+00	0,00E+00	0,00E+00	0
&>	MFR	kg		4,28E-02	0,00E+00	1,80E+00	0,00E+00	0
Þ₹	MER	kg	kg		0,00E+00	3,38E-06	0,00E+00	0
50	EEE	MJ		4,54E-02	0,00E+00	1,10E-01	0,00E+00	0
D	EET	MJ		6,86E-01	0,00E+00	1,67E+00	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
&D	MFR	kg	0	0	0,00E+00	1,63E+00	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	4,98E+00	0,00E+00	0,00E+00
₹ D	EEE	МЈ	0	0	0,00E+00	2,68E-01	0,00E+00	0,00E+00
DØ	EET	МЈ	0	0	0,00E+00	4,06E+00	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	0,00E+00							
kg C	8,94E-01							
	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	Data source	Amount	Unit
Electricity, Sweden (kWh)	ecoinvent 3.6	54,94	g CO2-eq/kWh

Dangerous substances

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

Indoor environment

Additional Environmental Information

Key Environmental Indicators

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO ₂ -eq	21,18	0,17	25,50	24,30
Total energy consumption	MJ	403,88	2,61	414,87	403,65
Amount of recycled materials	%	50,50			

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit	Unit		A4	A5	B2	В3
GWPIOBC	kg CO ₂ -eq	kg CO ₂ -eq			3,12E-02	2,69E-01	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	0	0	9,61E-02	3,45E-01	3,45E-02	-1,78E+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 (%)	
Detroit	5,39	10,24	255,08	67,18	
Boston 60/42 (pair)	6,92	21,18	403,88	51,66	
Boston 60/57 (pair)	7,72	24,63	459,78	49,86	
Boston 60/72 (pair)	8,52	28,09	515,68	48,40	
Boston 70/42 (pair)	7,32	22,91	431,83	50,71	
Boston 70/57 (pair)	8,12	26,36	487,73	49,10	
Boston 70/72 (pair)	8,92	29,82	543,63	47,77	
Boston 80/42 (pair)	8,59	24,06	478,68	54,94	
Boston 80/57 (pair)	9,39	26,13	509,59	53,18	
Boston 80/72 (pair)	10,19	30,97	590,48	51,70	

Key environmental indicators (A1-A3) for options for this EPD					
Options	Weight (kg)	GWPtotal (kg CO ₂ -eq)	Total energy consumption (MJ)	Amount of recycled materials (%)	
Reinforcement beam for 180cm tables	5,09	27,22	414,40	19,65	

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NPCR Part A: Construction products and services. Ver. 2.0. March 2021, EPD-Norge.

NPCR 026 Part B for Furniture. Ver. 2.0 March 2022, EPD-Norge.

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