

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

## Education Storage - Drawer & Cube Unit Storage



Kinnarps\_

**Owner of the declaration:** Kinnarps AB

Product: Education Storage - Drawer & Cube Unit Storage

**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 **Program operator:** The Norwegian EPD Foundation

Declaration number:

NEPD-9278-8864

**Registration number:** 

NEPD-9278-8864

Issue date: 05.03.2025

Valid to: 05.03.2030

EPD software: LCAno EPD generator ID: 706147

The Norwegian EPD Foundation





## **General information**

**Product** Education Storage - Drawer & Cube Unit Storage

#### 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-9278-8864

#### 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 Education Storage - Drawer & Cube Unit Storage

#### Declared unit (cradle to gate) with option:

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

#### Functional unit:

Production of one storage unit, 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:

05.03.2025

Valid to: 05.03.2030

Year of study:

2024

#### 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: Rickard Thil

Reviewer of company-specific input data and EPD: Isabell Vesterberg

Approved:

Håkon Hauan Managing Director of EPD-Norway



## Product

#### **Product description:**

Education Storage ES2PH800WD8 in laminate finish with eight drawers and wooden plinth.

With the right storage in the right place, you create order, a calm working environment, and the conditions for an efficient and seamless workflow. Education Storage is a sustainable and functional storage series with a cohesive design. The series includes tall cabinets, bench cabinets, wall cabinets, caddies, as well as drawer and compartment storage.

#### **Product specification**

Components such as handles, shelves, doors, and castors can be easily replaced when needed, extending the product's lifespan.

This EPD includes the following variants:

- Education Storage Drawer Storage ES2PH800WD8 Veneer
- Education Storage Drawer Storage ES2PH1200WD12
- Education Storage Cube Storage Unit ES2PH800O4
- Education Storage Cube Storage Unit ES2PH120006
- Education Storage Drawer Storage- ES2PH800WD12 MOB800- Mobile underframe
- Education Storage Drawer Storage ES2PH1200WD12 MOB1200- Mobile underframe

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Glue for wood	0,13	0,19	0,00	0,00
Powder coating	0,08	0,12	0,00	0,00
Wood - Chipboard	54,67	82,25	24,60	45,00
Wood - High Density Fibreboard (HDF)	2,88	4,33	0,00	0,00
Wood - Solid beech/birch	0,03	0,05	0,00	0,00
Metal - Steel	7,28	10,96	0,90	12,35
Plastic - Acrylonitrile butadiene styrene (ABS)	1,40	2,10	0,00	0,00
Total	66,47	100,00	25,50	

#### Technical data:

The Education Storage series is tested and compliant with the following certifications and standards:

#### Certifications:

Education Storage is FSC® labeled in all standard executions

#### Fullfilled technical standards: EN 16121:2024 L2 Non-domestic storage furniture - Requirements for safety, strength, durability and stability.

#### Market:

Mainly Europe, but is available worldwide.

#### **Reference service life, product**

15 years.

Reference service life, building

#### **LCA: Calculation rules**

#### Declared unit:

1 pcs Education Storage - Drawer & Cube Unit Storage

#### **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
Glue for wood	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Metal - Steel	S-P-02242	EPD	2020
Plastic - Acrylonitrile butadiene styrene (ABS)	ecoinvent 3.6	Database	2019
Powder coating	ecoinvent 3.6	Database	2019
Wood - Chipboard	Modified ecoinvent 3.6	Database	2019
Wood - High Density Fibreboard (HDF)	ecoinvent 3.6	Database	2019
Wood - Solid beech/birch	modified ecoinvent 3.6	Database	2019



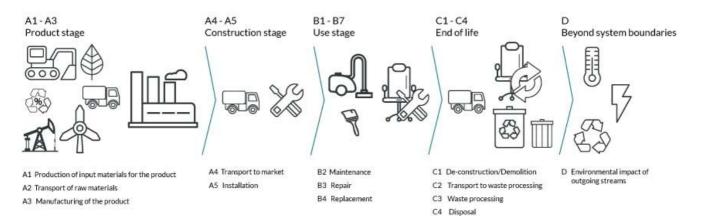
## System boundaries (X=included, MND=module not declared, MNR=module not relevant)

	Product sta	ige		uction ion 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
Х	Х	Х	Х	Х	MND	Х	Х	Х	MND	MND	MND	Х	Х	Х	Х	Х

#### System boundary:

Some metal components are manufactured at Kinnarps' production site in Jönköping and some are purchased as premanufactured components. The wooden components are manufactured and assembled at Kinnarps' production site in Kinnarp, from where the final product is also shipped to the customer.

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 diesel with renewable content. For more information about sustainability at Kinnarps, visit https://www.kinnarps.com/about-kinnarps/sustainability/

The maintenance scenario includes wet-wiping 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.

	Capacity utilisation				Value
Transport from production place to user (A4)	(incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	(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)
Truck, over 32 tonnes, EURO 6 (km)	53,3 %	85	0,023	l/tkm	1,96
Waste processing (C3)	Unit	Value			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	57,57			
Waste treatment per kg Plastics, Mixture, municipal incineration with fly ash extraction (kg)	kg	1,39			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,080			
Waste, materials to recycling (kg)	kg	2,47			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	7,28			
Waste treatment per kg Hazardous waste, incineration (kg)	kg	0,12			
Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0,66			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg)	kg	0,048			
Landfilling of ashes from incineration of Non- hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,018			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	4,81			
Landfilling of ashes from incineration of Hazardous waste, from incineration (kg)	kg	0,023			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	639,034			
Substitution of electricity, in Norway (MJ)	MJ	42,23			
Substitution of primary steel with net scrap (kg)	kg	1,56			



## LCA: Results

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

Environine	invironmental impact										
	Indicator		Unit		A1-A3	A4	A5	B2	B3		
P	GWP-total		kg CO <sub>2</sub> -e	pd	-2,64E+01	7,83E-01	0	2,69E-01	0		
P	GWP-fossil		kg CO <sub>2</sub> -e	kg CO <sub>2</sub> -eq		7,81E-01	0	2,67E-01	0		
P	GWP-biogenic		kg CO <sub>2</sub> -e	eq	-9,57E+01	1,32E-03	0	1,68E-03	0		
P	GWP-luluc		kg CO <sub>2</sub> -e	eq	2,37E-01	1,22E-03	0	4,35E-04	0		
Ò	ODP		kg CFC11 -	-eq	7,17E-06	1,61E-07	0	2,37E-08	0		
(F)	AP		mol H+ -e	eq	4,81E-01	5,48E-03	0	1,56E-03	0		
	EP-FreshWater		kg P -ec	1	3,58E-03	2,87E-05	0	2,14E-05	0		
	EP-Marine		kg N -ec	1	1,00E-01	1,45E-03	0	2,48E-04	0		
	EP-Terrestial		mol N -e	q	1,23E+00	1,62E-02	0	2,88E-03	0		
	POCP		kg NMVOC	-eq	4,84E+00	5,93E-03	0	9,05E-04	0		
e de la	ADP-minerals&metals <sup>1</sup>		kg Sb-eq		1,33E-03	9,49E-05	0	7,48E-06	0		
B	ADP-fossil <sup>1</sup>		MJ		1,24E+03	1,65E+01	0	4,57E+00	0		
<b>%</b>	WDP <sup>1</sup>		m <sup>3</sup>		2,37E+04	4,89E+01	0	8,18E+01	0		
		Unit									
	Indicator		Unit	B4	C1	C2	C3	C4	D		
P	Indicator GWP-total		<b>Unit</b> kg CO <sub>2</sub> -eq	B4 0	C1 0	C2 4,97E-01	C3 1,01E+02	C4 9,06E-02	D -5,57E+00		
P											
	GWP-total		kg CO <sub>2</sub> -eq	0	0	4,97E-01	1,01E+02	9,06E-02	-5,57E+00		
P	GWP-total GWP-fossil		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0	0	4,97E-01 4,97E-01	1,01E+02 4,52E+00	9,06E-02 9,05E-02	-5,57E+00 -5,43E+00		
P	GWP-total GWP-fossil GWP-biogenic		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0 0	0 0 0	4,97E-01 4,97E-01 2,13E-04	1,01E+02 4,52E+00 9,69E+01	9,06E-02 9,05E-02 5,88E-05	-5,57E+00 -5,43E+00 -8,60E-03		
P	GWP-total GWP-fossil GWP-biogenic GWP-luluc		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0 0 0	0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04	1,01E+02 4,52E+00 9,69E+01 2,04E-04	9,06E-02 9,05E-02 5,88E-05 2,16E-05	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01		
P P P O	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0 0 0 0	0 0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01		
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP		kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq	0 0 0 0 0	0 0 0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07 1,60E-03	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07 1,04E-02	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08 5,01E-04	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01 -3,91E-02		
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq cg CFC11 -eq mol H+ -eq kg P -eq	0 0 0 0 0 0 0	0 0 0 0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07 1,60E-03 3,95E-06	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07 1,04E-02 2,03E-05	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08 5,01E-04 9,86E-07	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01 -3,91E-02 -4,35E-04		
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine	1	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq cg CFC11 -eq mol H+ -eq kg P -eq kg N -eq	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07 1,60E-03 3,95E-06 3,50E-04	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07 1,04E-02 2,03E-05 4,86E-03	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08 5,01E-04 9,86E-07 1,73E-04	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01 -3,91E-02 -4,35E-04 -1,18E-02		
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial	1	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq cg 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 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07 1,60E-03 3,95E-06 3,50E-04 3,91E-03	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07 1,04E-02 2,03E-05 4,86E-03 5,16E-02	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08 5,01E-04 9,86E-07 1,73E-04 1,93E-03	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01 -3,91E-02 -4,35E-04 -1,18E-02 -1,26E-01		
	GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP	1	kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq cg 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 0 0 0 0 0 0 0 0	4,97E-01 4,97E-01 2,13E-04 1,51E-04 1,20E-07 1,60E-03 3,95E-06 3,50E-04 3,91E-03 1,53E-03	1,01E+02 4,52E+00 9,69E+01 2,04E-04 1,02E-07 1,04E-02 2,03E-05 4,86E-03 5,16E-02 1,27E-02	9,06E-02 9,05E-02 5,88E-05 2,16E-05 2,04E-08 5,01E-04 9,86E-07 1,73E-04 1,93E-03 5,50E-04	-5,57E+00 -5,43E+00 -8,60E-03 -1,28E-01 -2,70E-01 -3,91E-02 -4,35E-04 -1,18E-02 -1,26E-01 -3,84E-02		

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" \*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

**Remarks to environmental impacts** 



Additional er	nvironmental impa	ct indicators						
	Indicator	Unit		A1-A3	A4	A5	B2	B3
	PM	Disease incidence		3,38E-05	1,81E-07	0	1,31E-08	0
	IRP <sup>2</sup>	kgBq U235 -eq		9,91E+00	5,40E-02	0	3,16E-02	0
	ETP-fw <sup>1</sup>	CTUe		2,19E+03	2,41E+01	0	4,95E+00	0
44. *****	HTP-c <sup>1</sup>	CTUh		1,36E-06	0,00E+00	0	7,39E-10	0
4 <u>8</u>	HTP-nc <sup>1</sup>	CTUh		1,61E-06	4,03E-08	0	1,64E-08	0
	SQP <sup>1</sup>	dimensionless		3,30E+03	3,08E+01	0	1,28E+00	0
h	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	4,56E-08	1,16E-07	8,43E-09	-1,99E-06
	IRP <sup>2</sup>	kgBq U235 -eq	0	0	3,53E-02	1,85E-02	6,43E-03	-3,32E-01
	ETP-fw <sup>1</sup>	CTUe	0	0	5,90E+00	2,71E+01	1,30E+00	-3,84E+02
48.* ***	HTP-c <sup>1</sup>	CTUh	0	0	0,00E+00	2,83E-09	5,40E-11	-1,36E-08
88 E	HTP-nc <sup>1</sup>	CTUh	0	0	5,70E-09	1,12E-07	1,75E-09	-9,57E-08
	SQP <sup>1</sup>	dimensionless	0	0	9,25E+00	1,47E+00	3,66E+00	-3,55E+02

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" \*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	B3
i. D	PERE		MJ	5,25E+02	7,48E-01	0	6,21E-01	0
æ	PERM		MJ		0,00E+00	0	0,00E+00	0
° <b>₽</b> ₁	PERT		MJ	1,09E+03	7,48E-01	0	6,21E-01	0
Ð	PENRE		MJ	1,20E+03	1,65E+01	0	4,57E+00	0
Å2	PENRM		MJ	2,10E+01	0,00E+00	0	0,00E+00	0
IA	PENRT		MJ	1,22E+03	1,65E+01	0	4,57E+00	0
	SM		kg	2,80E+01	0,00E+00	0	0,00E+00	0
	RSF		MJ		2,43E-02	0	4,98E-02	0
Ū.	NRSF		MJ		8,38E-02	0	4,91E-02	0
۲	FW		m <sup>3</sup>	9,83E-01	6,76E-03	0	7,85E-01	0
	ndicator	Unit	B4	C1	C2	C3	C4	D
्र छि	ndicator PERE	Unit MJ	B4 0	C1 0	C2 1,02E-01	C3 4,41E-01	C4 4,26E-02	D -3,28E+02
i S	PERE	MJ	0	0	1,02E-01	4,41E-01	4,26E-02	-3,28E+02
ir V	PERE PERM	MJ MJ	0	0	1,02E-01 0,00E+00	4,41E-01 -2,87E+01	4,26E-02 0,00E+00	-3,28E+02 0,00E+00
ूट डि इन्द्र	PERE PERM PERT	MJ MJ	0 0 0	0 0 0	1,02E-01 0,00E+00 1,02E-01	4,41E-01 -2,87E+01 -2,82E+01	4,26E-02 0,00E+00 4,26E-02	-3,28E+02 0,00E+00 -3,28E+02
्ट्र ड ्र स्ट्रि	PERE PERM PERT PENRE	MJ MJ MJ	0 0 0 0 0 0	0 0 0 0	1,02E-01 0,00E+00 1,02E-01 8,07E+00	4,41E-01 -2,87E+01 -2,82E+01 7,63E+00	4,26E-02 0,00E+00 4,26E-02 1,55E+00	-3,28E+02 0,00E+00 -3,28E+02 -6,75E+01
	PERE PERM PERT PENRE PENRM	MJ MJ MJ MJ	0 0 0 0 0	0 0 0 0	1,02E-01 0,00E+00 1,02E-01 8,07E+00 0,00E+00	4,41E-01 -2,87E+01 -2,82E+01 7,63E+00 -5,57E+02	4,26E-02 0,00E+00 4,26E-02 1,55E+00 0,00E+00	-3,28E+02 0,00E+00 -3,28E+02 -6,75E+01 0,00E+00
ی ج ج بی بیک د	PERE PERM PERT PENRE PENRM PENRT	MJ MJ MJ MJ MJ	0 0 0 0 0 0	0 0 0 0 0	1,02E-01 0,00E+00 1,02E-01 8,07E+00 0,00E+00 8,07E+00	4,41E-01 -2,87E+01 -2,82E+01 7,63E+00 -5,57E+02 -5,49E+02	4,26E-02 0,00E+00 4,26E-02 1,55E+00 0,00E+00 1,55E+00	-3,28E+02 0,00E+00 -3,28E+02 -6,75E+01 0,00E+00 -6,75E+01
	PERE PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ MJ Kg	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	1,02E-01 0,00E+00 1,02E-01 8,07E+00 0,00E+00 8,07E+00 0,00E+00	4,41E-01 -2,87E+01 -2,82E+01 7,63E+00 -5,57E+02 -5,49E+02 0,00E+00	4,26E-02 0,00E+00 4,26E-02 1,55E+00 0,00E+00 1,55E+00 0,00E+00	-3,28E+02 0,00E+00 -3,28E+02 -6,75E+01 0,00E+00 -6,75E+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 excluding 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 non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable primary energy resources; SM = Use of non-renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = 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; SM = 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; SM = Use of non-renewable primary energy resources; SM = Use of non-renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; SM = 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	End of life - Waste										
Indicator			Unit		A1-A3	A4	A5	B2	B3		
ā	HWD	HWD		kg		2,32E-03	0	8,64E-04	0		
Ū	NHWD	NHWD		kg		2,46E+00	0	5,55E-02	0		
æ	RWD		k	g	6,47E-03	6,62E-05	0	2,68E-05	0		
In	dicator		Unit	B4	C1	C2	C3	C4	D		
à	HWD		kg	0	0	4,41E-04	0,00E+00	5,28E+00	-1,15E-02		
Ū	NHWD	NHWD		0	0	7,01E-01	2,05E-01	2,36E-01	-1,96E+00		
8	RWD		kg	0	0	5,51E-05	0,00E+00	8,89E-06	-2,73E-04		

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	Ui	Unit		A4	A5	B2	B3
¢	CRU	k	kg		0,00E+00	0	0,00E+00	0
\$	MFR	k	g	1,80E+00	0,00E+00	0	0,00E+00	0
DF3	MER	k	g	1,70E+00	0,00E+00	0	0,00E+00	0
ØÞ	EEE	N	MJ		0,00E+00	0	0,00E+00	0
D	EET	N	IJ	1,66E+01	0,00E+00	0	0,00E+00	0
Indicato	or	Unit	B4	C1	C2	C3	C4	D
$\langle \hat{\varphi} \rangle$	CRU	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
\$\$	MFR	kg	0	0	0,00E+00	2,47E+00	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	6,65E+01	0,00E+00	0,00E+00
$\overline{\mathcal{P}}$	EEE	MJ	0	0	0,00E+00	4,24E+01	0,00E+00	0,00E+00
DB	EET	MJ	0	0	0,00E+00	6,41E+02	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

Indicator	Unit	At the factory gate							
Biogenic carbon content in product	kg C	2,66E+01							
Biogenic carbon content in accompanying packaging	kg C	0,00E+00							

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

## **Additional Environmental Information**

#### **Key Environmental Indicators**

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO <sub>2</sub> -eq	-26,42	0,78	76,63	71,07
Total energy consumption	MJ	1742,91	17,38	1783,68	1370,19
Amount of recycled materials	%	38,35			

Additional environmental impact indicators required in NPCR Part A for construction products								
Indicator	Unit	Unit		A4	A5	B2	B3	
GWPIOBC	kg CO <sub>2</sub> -eq		8,43E+01	7,83E-01	0	2,69E-01	0	
Indicator	Unit	B4	C1	C2	C3	C4	D	
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	4,97E-01	4,44E+00	9,58E-02	-6,37E+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		GWPtotal (kg CO <sub>2</sub> - eq)	Total energy consumption (MJ)	Amount of recycled materials (%)				
Education Storage - Drawer Storage - ES2PH800WD8 - Veneer	66,60	-33,68	1731,73	36,81				
Education Storage - Drawer Storage - ES2PH1200WD12	96,20	-33,25	2541,07	38,13				
Education Storage - Cube Storage Unit - ES2PH800O4	39,00	-30,53	858,45	42,70				
Education Storage - Cube Storage Unit - ES2PH1200O6	53,60	-43,37	1174,05	42,88				
Education Storage - Drawer Storage - ES2PH800WD8 MOB800 - Mobile underframe	62,00	1,48	1794,98	35,85				
Education Storage - Drawer Storage - ES2PH1200WD12 MOB1200 - Mobile underframe	90,20	0,21	2597,96	35,94				



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