



AJ Products.com



Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021

Clothes Locker CLASSIC, 4 section, 1200 mm By AJ Products

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-09021
Publication date:	2023-07-07
Valid until:	2028-07-06
EPD covers multiple products:	Yes





General information

Programme information

Programme: The International EPD® System
 EPD International AB
 Box 210 60
Address: SE-100 31 Stockholm
 Sweden
Website: www.environdec.com
E-mail: info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification

Core PCRs:	CEN standard EN 15804 serves as the Core Product Category Rules (PCR) PCR 2019:14 v 1.2.5, valid until 20.12.2024.
c-PCR:	PCR 2019:14-c-PCR-021 Furniture (c-PCR to PCR 2019:14) (Adopted from EPD Norway)
UN CPC code:	38121 - Other metal furniture, of a kind used in offices
PCR review was conducted by:	PCR 2019:14: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact . c-PCR-021: Diogo Aparecido Lopes Silva, Universidade Federal de São Carlos.
LCA accountability:	Viktor Hakkarainen, VästLCA AB
Third-party verification by individual verifier:	Independent third-party verification of the declaration and data, according to ISO 14025:2006 via: Hüdai Kara, PhD, Metsims Sustainability Consulting Approved by: The International EPD® System.
	Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.



Company information

AJ Produkter
Transportvägen 23
302 30 Halmstad, Sweden
<https://www.ajproducts.com/>

Contact

Richard Eklund
Richard eklund@ajprodukter.se
Quality & Environment dep.
+46 (0)35 180 329

Description of the organisation

AJ Products are a Swedish company within the business of manufacturing and retail of products and solutions for workspaces such as offices, schools, industries, and warehouses. We started our business 1975 with the aim to grown into a leading player in each product category.

We consider ourselves to be professionals in designing work environments where people feel good. With a focus on innovation, sustainability, and self-designed product series, we create smart solutions for the workplace of today.

The company operate in 19 European countries, with about 1100 employees and three own factories. AJ Products contribute annually to improving the working environment at 330,000 workplaces around Europe. Our range consists of more than 14 500 products for offices, schools, warehouses, and industries. Our goal is to ensure that all our products offer high quality with respect to functionality and safety, have a long lifespan and are not harmful to people or the environment. As we continue to grow and improve our environmental work, creating sustainable and high-quality products remain a central aspect.

Management system-related certifications: AJ Products has been certified according to ISO 14001 and ISO 9001 since 2011.

Product information

This EPD applies to AJ Products clothes locker Classic, 4-section. High-quality clothes lockers with a welded steel frame, power coated with blue, grey or black doors. The 4-sections are available with sloping or flat roof also as a combo locker with two doors for one person with sloping roof. These lockers are highly adaptable to pair with other sizes and combinations to fit your needs and preferences. The steel-plate lockers are perfect for storing clothes and personal belongings in workplaces, gyms, schools, exhibition rooms and other public areas.



Clothes locker, sloping roof



Clothes locker, flat roof



Combo locker, sloping roof



The lockers are certified according to EN 14073-2:2004, EN 16121:2013+A1:2017, EN 14074:2004 and EN 14073-3:2004

The products have the following physical dimensions (in mm):

Product	Article nr	Height	Width	Depth	Weight
Clothes locker, sloping roof	335032	1900	1200	550	83,7 kg
Clothes locker, flat roof	315412	1740	1200	550	81,0 kg
Combo locker, sloping roof (Declared results)	130312	1900	1200	550	91,8 kg

Geographical scope:

A1-A3: Slovakia and Sweden

A4-D: Europe

LCA information

Functional unit:

The production of one unit of the declared product provided and maintained for an estimated service life (ESL) for the product declared.

Estimated Service Life (ESL) and Reference service life (RSL):

For these products, the ESL is the same as the reference service life (RSL), which is 15 years as stated in the PCR.

System boundaries:

Time representativeness: Data collected for the full year 2022.

Database(s) and LCA software used: SimaPro 9.5 with Ecoinvent 3.9.1

Description of system boundaries:

Cradle to grave and module D (A + B + C + D).

Type of EPD:

Multiple products, based on worst case scenario (Combo locker, Sloping roof for all LCIA categories).



Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage	
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	SL	SL	SL/SE	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	
Specific data used	<10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Clothes locker, Sloping roof: -14% Clothes locker, flat roof: -19% Combo locker, Sloping roof: 0%																	
Variation – sites	0%																	

More information:

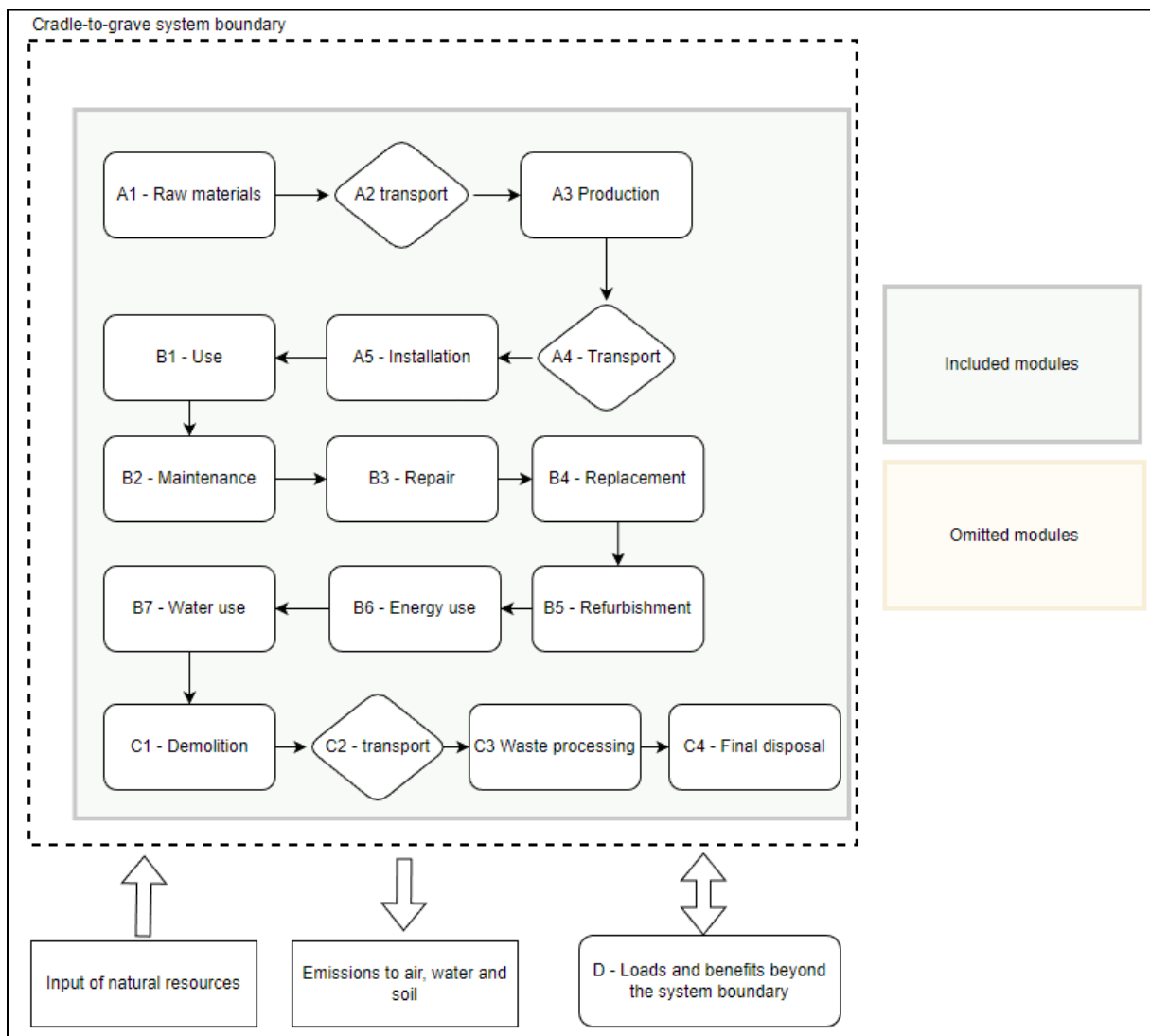
Steel for lockers is purchased from suppliers majorly from Slovakia with a portion from other suppliers in Serbia and Germany.

The supplied steel from the different countries is modelled with a technology mix between Basic oxygen furnace and electric arc furnace as presented in (EUROFER, 2023).

Colour paint is purchased locally from a Slovakian supplier or from the Czech Republic in bags as powder paint type.

Shipment of finished lockers between AJ factory in Slovakia to Halmstad is organized by AJ Products Supply chain department through Slovakia logistic transport company.

Transport way: Truck from AJ factory, Trnava, Slovakia → truck to Bratislava, Slovakia → train to Rostock, Germany → Boat to Trelleborg, Sweden → Truck to AJ Products, Halmstad → truck to customer.





In the production process of lockers, there are various processes and machines:

1. Coils cutting

Big coils are cut from supplier around 15tons in 2-3 smaller coils – width cutting

2. LinaPunch

Sheets are cut from smaller coils + punching of basic shapes or cutout

3. Sheets automatic punching process

Punching of various parts, holes, shapes, corners

4. Sheets automatic bending

An automatic machine is used to avoid manually bending big batches with exact bending

5. Rollforming

A roll forming process is used to improve efficiency, it avoids punching and bending but does the process operation by roll forming instead.

6. Bending process

Bending of smaller parts, where automatic bending process is not possible

7. Spot welding, hand welding

Manual welding of parts such as small batch or complicated products where automatic welding not possible

8. Welding robot

An automatic welding process of cabinets for big batches in an automatized process

9. Hooked manual welding

Manual welding of cabinet and lockers such as small batches or complicated products where automatic welding is not possible.

10. Painting line – surface treatment process

A small painting line for flat parts (doors, shelves) and a big painting line for cabinets and lockers,

11. Packaging – manual operation

Shelf accessories are hand packaged and a machine is used for small parts packing

12. Final Assembly of lockers and cabinets

Manual assembly of doors, shelves and connection material packaging. An automatic manipulator is used for products movement

13. Shipment

4 pieces of 2-section lockers are shipped on one 1200x1200 pallet. Or 1 piece of both 3-section and 4-section lockers are shipped on a separate 1200x600 half pallet.

Cut-off rules:

The cut-off criteria are in accordance with the EN 15804 standard, meaning that max 1% of the renewable and non-renewable primary energy use and max 1% of the total mass input of a specific unit process are allowed to be cut-off (excluded). Particular care should be taken to include material and energy flows known to have the potential to cause significant emissions into air and water or soil related to the environmental indicators of EN 15804+A2.



For a full module (A1, A2 etc) the summarized cut-off of all unit processes is max 5% of the entire module.

In this study, the following flows are considered below cut-off:

- Welding material
- Differences in pigment colour

Allocation procedures:

Allocation is performed according to the allocation hierarchy in EN 15804 chapter 6.4.3.2, that is:

Step 1 – Avoid allocation by dividing the unit processes into sub-processes or expanding the product system to include additional functions.

Step 2 – Partitioning the inputs and outputs of the system between its different products or functions in a way that reflects the underlying physical relationships between them. Examples of this is mass or energy.

Step 3 – Partitioning the inputs and outputs of the system between its different products or functions in a way that reflects other relationships between them. Examples of this is economic value.

In this study, allocation based on mass has been performed.

Assumptions:

Transports not under AJ Products control are assumed to be performed by Euro 5 class vehicles.

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Steel	88,4	0% ¹	0
Paint	3,41	0%	0
Plastic	0,016	0%	0
TOTAL	91,8	0%	0
Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Cardboard	1,52	1,66%	0,494
Plastic	0,500	0,54%	
Wood pallet	8,620	9,39%	0,494
TOTAL	10,64	11,59%	

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
No dangerous substances included in the product			

¹ This is reported as 0% as it is not possible to know how much electric arc furnace steel are from post-consumer sources.



Scenarios beyond A1-A3

The presented scenarios in for modules A4-D are currently in use and are representative for one of the most probable alternatives.

Module A4-A5

Activity	Amount	Unit	Comment
Customer transport	1250	km	Transport to average European customer, 50% load capacity
Installation	-	-	The lockers are assumed to be manually installed.
Packaging waste treatment	10,64	kg	Assumed to be treated by municipal incineration

Module B1-B7

Module B1 does not have any activity.

Module B2:

Activity	Amount	Unit	Comment
Water for cleaning	15	Litres	Assumed to use 1 litre of water per year on average
Cleaning fluid	0,15	kg	Assumed to use 10 g of cleaning fluid per year on average

Module B3-B7 does not have any activity.

Module C1-D

Activity	Amount	Unit	Comment
Demolition	-	-	The lockers are assumed to be manually deconstructed.
Waste transport	50	km	Assumed distance, 50% load capacity
Electricity for crushing and sorting	2,39	kWh	0,026 kWh per kg material
Internal transports for crushing and sorting	38,6	kgkm	0,42 kgkm per kg material
Amount of product recycled	84,0	kg	95% of all steel
Amount of product sent to incineration	0,016	kg	100% of all plastics
Amount of product sent to landfill	7,83	kg	5% of all steel and 100% of all paint



Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2,62E+02	4,61E+01	1,29E+00	0	5,31E-01	0	0	0	0	0	0	8,87E-01	9,27E-01	2,80E-02	-8,23E+01
GWP-biogenic	kg CO ₂ eq.	-1,37E+01	4,51E-02	1,48E+01	0	-1,98E-04	0	0	0	0	0	0	8,68E-04	3,07E-02	1,91E-05	9,93E-01
GWP-luluc	kg CO ₂ eq.	1,69E-01	2,20E-02	6,43E-05	0	3,58E-02	0	0	0	0	0	0	4,23E-04	2,17E-03	1,65E-05	2,81E-02
GWP-total	kg CO ₂ eq.	2,48E+02	4,62E+01	1,61E+01	0	5,66E-01	0	0	0	0	0	0	8,89E-01	9,60E-01	2,81E-02	-8,13E+01
ODP	kg CFC ₁₁ eq.	5,52E-06	9,77E-07	1,38E-08	0	4,05E-08	0	0	0	0	0	0	1,88E-08	1,69E-08	7,77E-10	-2,16E-06
AP	mol H ⁺ eq.	1,12E+00	1,47E-01	3,58E-03	0	3,50E-03	0	0	0	0	0	0	2,82E-03	4,99E-03	2,02E-04	5,38E-02
EP-freshwater	kg P eq.	1,18E-02	3,60E-04	2,87E-06	0	3,52E-05	0	0	0	0	0	0	6,92E-06	8,56E-05	2,62E-07	-3,58E-03
EP-marine	kg N eq.	2,20E-01	4,98E-02	1,67E-03	0	1,00E-03	0	0	0	0	0	0	9,58E-04	6,36E-04	7,73E-05	-5,97E-02
EP-terrestrial	mol N eq.	2,50E+00	5,32E-01	1,90E-02	0	7,54E-03	0	0	0	0	0	0	1,02E-02	7,39E-03	8,33E-04	-7,05E-01
POCP	kg NMVOC eq.	1,15E+00	2,19E-01	4,99E-03	0	2,15E-03	0	0	0	0	0	0	4,21E-03	2,38E-03	2,90E-04	-4,65E-01
ADP-minerals&metals*	kg Sb eq.	1,74E-03	1,44E-04	3,89E-07	0	5,40E-06	0	0	0	0	0	0	2,78E-06	1,04E-05	3,73E-08	9,39E-04
ADP-fossil*	MJ	3,62E+03	6,37E+02	1,27E+00	0	8,06E+00	0	0	0	0	0	0	1,23E+01	1,97E+01	6,69E-01	-6,50E+02
WDP*	m ³	8,07E+01	2,54E+00	3,43E-02	0	1,15E+00	0	0	0	0	0	0	4,89E-02	2,24E-01	2,95E-02	1,28E+01
Acronyms	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															

* Disclaimer 1: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators



Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ²	kg CO ₂ eq.	2,53E+02	4,51E+01	1,28E+00	0	5,24E-01	0	0	0	0	0	0	8,67E-01	9,19E-01	2,70E-02	-7,73E+01
Particulate matter	disease inc.	1,64E-05	2,89E-06	2,74E-08	0	3,44E-08	0	0	0	0	0	0	5,55E-08	1,55E-08	4,31E-09	-5,66E-06
Ionising radiation**	kBq U-235 eq	1,60E+01	3,19E-01	1,95E-03	0	1,26E-02	0	0	0	0	0	0	6,14E-03	1,75E-01	1,77E-04	2,82E+00
Ecotoxicity, freshwater*	CTUe	8,01E+02	3,37E+02	4,93E+00	0	1,21E+01	0	0	0	0	0	0	6,48E+00	2,11E+00	3,28E-01	2,35E+03
Human toxicity, cancer*	CTUh	1,61E-06	2,04E-08	3,33E-09	0	4,32E-10	0	0	0	0	0	0	3,92E-10	4,15E-10	1,14E-11	-4,23E-07
Human toxicity, non-cancer*	CTUh	5,58E-06	5,90E-07	1,44E-08	0	1,59E-08	0	0	0	0	0	0	1,13E-08	1,74E-08	3,24E-10	-9,31E-07
Land use*	Pt	2,18E+03	3,79E+02	4,19E-01	0	6,68E+00	0	0	0	0	0	0	7,29E+00	3,89E+00	1,33E+00	-1,20E+01

* Disclaimer 1: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

** Disclaimer 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 indicators

Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	3,94E+02	9,89E+00	7,52E-02	0	2,84E+00	0	0	0	0	0	0	1,90E-01	4,28E+00	5,67E-03	1,24E+02
PERM	MJ	1,45E+02	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	5,38E+02	9,89E+00	7,52E-02	0	2,84E+00	0	0	0	0	0	0	1,90E-01	4,28E+00	5,67E-03	1,24E+02
PENRE	MJ	3,80E+03	6,78E+02	1,37E+00	0	8,69E+00	0	0	0	0	0	0	1,30E+01	2,07E+01	7,12E-01	-6,82E+02
PENRM	MJ	1,11E+01	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,81E+03	6,78E+02	1,37E+00	0	8,69E+00	0	0	0	0	0	0	1,30E+01	2,07E+01	7,12E-01	-6,82E+02
SM	kg	1,18E+01	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	1,20E+00	1,06E-01	1,17E-02	0	4,19E-02	0	0	0	0	0	0	2,03E-03	6,04E-03	7,15E-04	-1,46E-01
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

² This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.



Waste indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Non-hazardous waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Radioactive waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Output flow indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	8,25E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	8,40E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	1,60E-02	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00



References

EUROFER. (2023, 07 03). Where is steel made in Europe? Retrieved from EUROFER - The European Steel Association: <https://www.eurofer.eu/about-steel/learn-about-steel/where-is-steel-made-in-europe/>

European Committee for Standardization. (2021). Sustainability in construction works - Environmental Product declarations - Core rules for the product category of construction products (EN 15804:2012+A2:2019/AC:2021).

Hakkarainen, V. (2023) Life Cycle Assessment of Steel Lockers By AJ Products AB, report date 2023-07-04

International Organization for Standardization [ISO]. (2006). Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025:2010).

International Organization for Standardization [ISO]. (2006a). Environmental management - Life cycle assessment - Principles and framework (ISO 14040:2006).

International Organization for Standardization [ISO]. (2006b). Environmental labels and declarations - Type III environmental declarations - Requirements and guidelines (ISO 14044:2006).

The International EPD System. (2021). GENERAL PROGRAMME INSTRUCTIONS FOR THE INTERNATIONAL EPD® SYSTEM version 4.0.

The International EPD system. (2022). PCR 2019:14-c-PCR-021 Furniture (c-PCR to PCR 2019:14) (Adopted from EPD Norway). Stockholm: EPD International.

The International EPD System. (2022). Product category rules of construction products version 1.2.5.

