ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Minikid 4 Max
Axkid AB

EPD HUB, HUB-3722
Published on 29.07.2025, last updated on 29.07.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Axkid AB
Address	Göteborgsvägen 94, 431 37 Mölndal, Sweden
Contact details	Info@axkid.com
Website	www.axkid.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Alexander Nyström, Greenstep Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Lucas Rodriguez, as an authorized verifier acting for EPD Hub Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Minikid 4 Max
Additional labels	-
Product reference	22150339, 22150340, 22150341, 22150342, 22150343
Place(s) of raw material origin	China
Place of production	China
Place(s) of installation and use	Europe (as scenario in the EPD)
Period for data	1.1.2024-31.12.2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	7,42

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of rear-facing car seat
Declared unit mass	10,9 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	7,05E+01
GWP-total, A1-A3 ($kgCO_2e$)	6,68E+01
Secondary material, inputs (%)	22,6
Secondary material, outputs (%)	80,8
Total energy use, A1-A3 (kWh)	267
Net freshwater use, A1-A3 (m^3)	0,6

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Axkid is a leading innovator in car seats, dedicated to promoting the safest solutions for travel. The company was founded in 2009, and with its Swedish heritage in safety, innovation, and design, Axkid is making roads safer today across the world. The products are sold through retailers and Axkids own e-commerce platform. By educating on traffic safety and providing the best protection and comfort for young adventurers, Axkid offers peace of mind to parents around the world.

PRODUCT DESCRIPTION

Axkid Up™ is our most advanced high back booster seat ever. Fits children between 4 to 12 years old (100-150cm/50kg) and adapts to your child with the raisable seat, to ensure perfect belt position. Equipped with a solid steel frame with a built-in support leg for added stability.

Key Features
- CompactFit™ designed for ultimate space-saving
- SafeLock™ integrated belt locking with anti-glide
- Easy installation with auto-retracting tether straps
- Magnetic harness and adaptable 3-part inlay
- Up to 30 cm legroom on all approved places in the car
- Adjustable 13-step headrest and 3-step recline
- Plus Test approved and crash tested beyond standards

A new era of forward-facing safety
The only high back booster seat in world with a patented raisable seat. Elevating safety and your child to benefit from the safety systems in the car like side airbags, pretensioners and optimal non-slack belt routing. Axkid Up has received numerous awards and redefines forward-facing car seat safety. With the ProTecBase™ Axkid Up reduces crash forces up to 25%* and has been tested up to 50 kg.

Further information can be found at: www.axkid.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	38,7	China
Minerals	0,1	China
Fossil materials	61,1	China
Bio-based materials	0	China

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,00
Biogenic carbon content in packaging, kg C	1,23

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of rear-facing car seat
Mass per declared unit	10,9 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
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		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

For the upstream transportation (A2), all transportation from tier 1 suppliers to Axkid's manufacturing site was included. For the rest of the supply chain transports, Market for-datasets were used for all raw materials to account for all transportation up to the tier 1 suppliers (A1). For the manufacturing stage (A3), total utility consumption and waste generation were reported on factory level and then allocated per product based on the annual production volumes of all rear-facing car seats. This includes water use, which is an input and output of the factory but not directly used in the manufacturing process.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The distribution scenario (A4) is based on a weighted average of Axkid's own data, from the manufacturing site to retailers, distributor warehouses and end-consumers. Specifically, the following transportation distances and datasets were used:

- 954 km - Market for transport, freight, lorry, unspecified
- 26042 km - Market for transport, freight, sea, container ship

The installation stage (A5) includes the end-of-life scenario of packaging materials which is representative for EU and based on the following source:

- Eurostat (2023). Packaging waste by waste management operations. https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_17539924/default/table

A 100 km transport was also included in A5, as an assumption, to represent the transportation of waste from the waste collection site to the waste treatment site. The following dataset was used: Market for transport, freight, lorry, unspecified.

PRODUCT USE AND MAINTENANCE (B1-B7)

The product does not require fuel or energy input during the use stage. Also, there is no planned maintenance for the product. Axkid offers spare parts in case anything breaks during its lifetime; however, this is rare and therefore considered negligible in the LCA.

Air, soil, and water impacts during the use phase have not been studied.

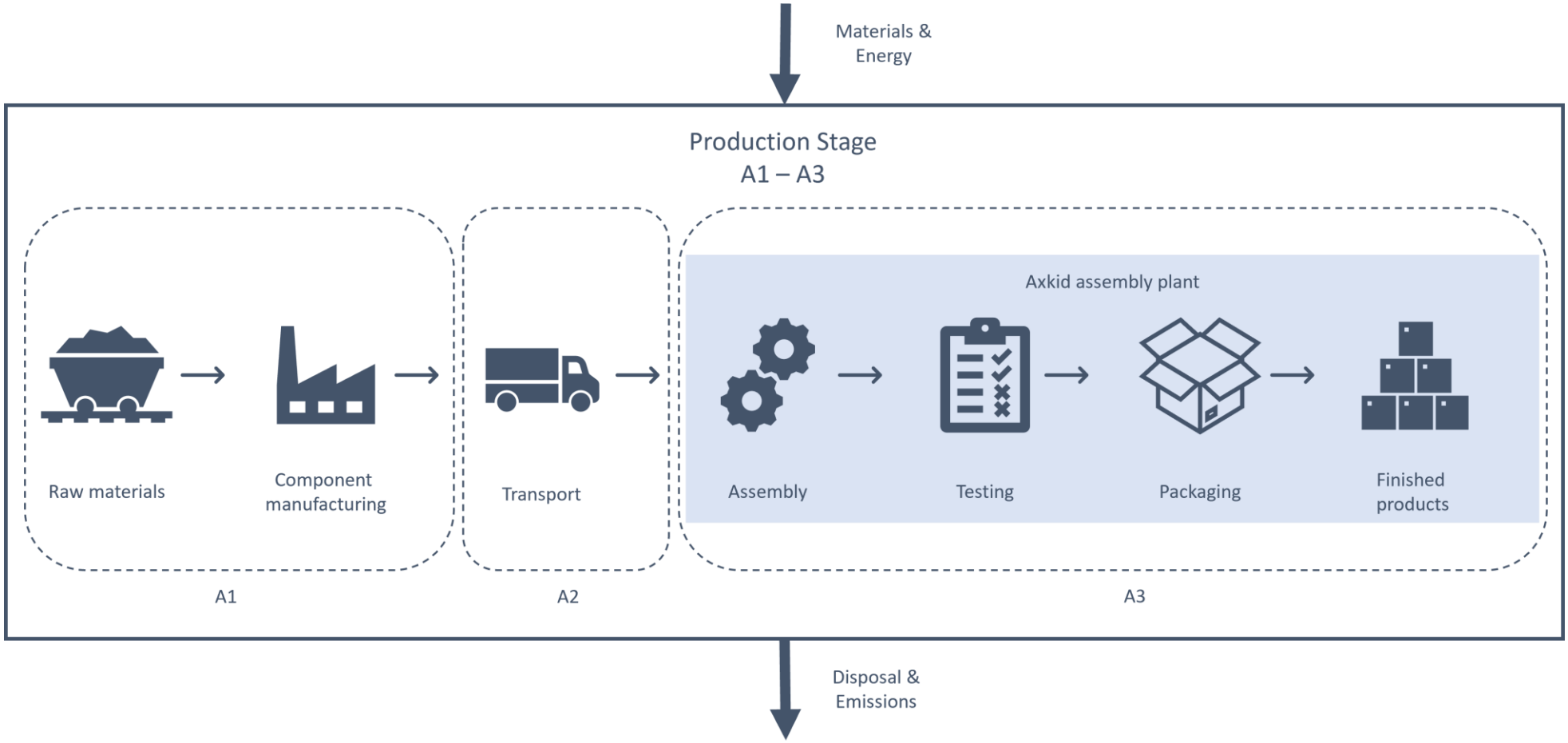
PRODUCT END OF LIFE (C1-C4, D)

The end-of-life scenario is largely representative for EU and is based on the following sources:

- EuRIC aisbl (2020). Recycling: Bridging Circular Economy & Climate Policy. https://circulareconomy.europa.eu/platform/en/knowledge/metal-recycling-factsheet-euric
- International Zinc Association (2011). Zinc recycling: Closing the loop. https://www.zink.de/wp-content/uploads/ALTE_TYPO3_SEITE/D_O_K_U_M_E_N_T_E/Broschueren/IZA_Broschueren/IZA_Closing_the_Loop_new.pdf
- Plastics Europe (2021). Zero plastics to landfill. https://plasticseurope.org/sustainability/circularity/recycling/zero-plastics-to-landfill/

Specifically, metal recycling was assumed according to the recycling rates provided in the sources. For all polymer-based materials, energy recovery was assumed at a rate of 75% according to Plastics Europe (2021); the rest was assumed to go to landfill. A 100 km transport was also included, as an assumption, to represent the transportation of waste from the waste collection site to the waste treatment site. The following dataset was used: Market for transport, freight, lorry, unspecified.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	6,19E+01	3,32E-01	4,57E+00	6,68E+01	5,90E+00	4,72E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,70E-01	1,20E+01	1,45E-01	-1,09E+00
GWP – fossil	kg CO_2e	6,13E+01	3,32E-01	8,93E+00	7,05E+01	5,90E+00	2,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,70E-01	1,20E+01	1,59E-01	-1,14E+00
GWP – biogenic	kg CO_2e	6,12E-01	0,00E+00	-4,46E+00	-3,85E+00	1,07E-03	4,48E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-4,60E-02	-1,40E-02	3,98E-02
GWP – LULUC	kg CO_2e	7,02E-02	1,52E-04	1,04E-01	1,74E-01	3,01E-03	7,82E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,77E-05	1,61E-04	1,50E-05	1,00E-02
Ozone depletion pot.	kg CFC-$_{11}$e	7,11E-06	4,83E-09	1,24E-07	7,24E-06	8,51E-08	1,33E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,48E-09	4,96E-09	5,71E-10	1,56E-08
Acidification potential	mol H^+e	2,71E-01	1,51E-03	4,71E-02	3,20E-01	1,21E-01	6,05E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,73E-04	3,09E-03	1,63E-04	-3,20E-03
EP-freshwater[2)]	kg Pe	1,96E-02	2,64E-05	2,91E-03	2,26E-02	2,87E-04	2,42E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,35E-05	6,96E-05	2,39E-06	-2,31E-04
EP-marine	kg Ne	5,58E-02	5,66E-04	1,55E-02	7,19E-02	3,13E-02	5,40E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,90E-04	1,72E-03	3,53E-03	4,25E-04
EP-terrestrial	mol Ne	5,82E-01	6,18E-03	1,17E-01	7,05E-01	3,47E-01	2,06E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,17E-03	1,42E-02	6,54E-04	-1,09E-02
POCP ("smog")[3)]	kg NMVOCe	2,32E-01	2,13E-03	3,50E-02	2,69E-01	9,69E-02	7,26E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,09E-03	3,60E-03	2,57E-04	-2,27E-03
ADP-minerals & metals[4)]	kg Sbe	1,76E-03	1,06E-06	3,59E-05	1,80E-03	1,05E-05	8,52E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,46E-07	2,35E-06	4,82E-08	1,41E-05
ADP-fossil resources	MJ	1,00E+03	4,73E+00	1,13E+02	1,12E+03	7,64E+01	1,36E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,42E+00	2,94E+00	4,92E-01	1,44E+00
Water use[5)]	m^3e depr.	2,48E+01	2,27E-02	2,58E+00	2,74E+01	2,74E-01	4,33E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,16E-02	8,05E-01	2,52E-03	5,76E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,65E-06	3,19E-08	7,34E-07	4,42E-06	3,15E-07	8,79E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,63E-08	2,06E-08	3,52E-09	-8,60E-08
Ionizing radiation[6)]	kBq U235e	3,28E+00	4,03E-03	7,44E-01	4,03E+00	4,64E-02	7,21E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,07E-03	1,30E-02	5,08E-04	8,23E-02
Ecotoxicity (freshwater)	CTUe	7,86E+02	7,44E-01	3,92E+01	8,26E+02	8,14E+00	8,98E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,81E-01	2,45E+01	8,74E+00	1,93E+01
Human toxicity, cancer	CTUh	4,66E-08	8,12E-11	3,03E-09	4,97E-08	1,32E-09	9,18E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,16E-11	1,11E-09	2,06E-11	1,63E-09
Human tox. non-cancer	CTUh	8,99E-07	3,26E-09	9,65E-08	9,99E-07	3,20E-08	4,18E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,67E-09	3,81E-08	3,86E-09	1,82E-07
SQP[7)]	-	2,33E+02	3,54E+00	2,46E+02	4,83E+02	2,61E+01	1,07E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,81E+00	3,88E+00	1,11E+00	-5,11E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	6,37E+01	6,71E-02	1,51E+01	7,88E+01	7,80E-01	-5,03E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,44E-02	1,59E-01	-1,01E-02	-8,41E+00
Renew. PER as material	MJ	5,61E-02	0,00E+00	4,00E+01	4,01E+01	0,00E+00	-3,98E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-4,21E-02	-1,40E-02	2,01E-02
Total use of renew. PER	MJ	6,37E+01	6,71E-02	5,51E+01	1,19E+02	7,80E-01	-9,01E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,44E-02	1,16E-01	-2,41E-02	-8,39E+00
Non-re. PER as energy	MJ	7,68E+02	4,73E+00	1,08E+02	8,81E+02	7,64E+01	-3,05E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,42E+00	-1,79E+02	-6,03E+01	1,36E+00
Non-re. PER as material	MJ	2,33E+02	0,00E+00	5,33E+00	2,38E+02	0,00E+00	-5,22E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,74E+02	-5,81E+01	1,54E-01
Total use of non-re. PER	MJ	1,00E+03	4,73E+00	1,14E+02	1,12E+03	7,64E+01	-8,27E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,42E+00	-3,54E+02	-1,18E+02	1,52E+00
Secondary materials	kg	2,46E+00	2,11E-03	2,33E+00	4,80E+00	3,55E-02	2,05E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,08E-03	3,30E-03	1,70E-04	1,43E+00
Renew. secondary fuels	MJ	7,57E-02	2,68E-05	3,42E-01	4,17E-01	2,18E-04	1,38E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,37E-05	1,61E-04	3,20E-06	4,06E-02
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	5,40E-01	6,64E-04	5,90E-02	6,00E-01	7,37E-03	2,17E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,41E-04	1,38E-02	-6,18E-03	-5,61E-02

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	8,69E+00	8,27E-03	8,12E-01	9,51E+00	1,14E-01	1,49E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,24E-03	2,14E-01	4,88E-03	1,48E-01
Non-hazardous waste	kg	2,23E+02	1,55E-01	2,11E+01	2,44E+02	1,82E+00	1,63E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,96E-02	6,05E+00	8,41E+00	3,33E+01
Radioactive waste	kg	8,66E-04	9,87E-07	1,81E-04	1,05E-03	1,13E-05	1,84E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,06E-07	3,34E-06	1,24E-07	2,01E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	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	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,22E-02	1,22E-02	0,00E+00	2,75E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,79E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	3,05E-03	3,05E-03	0,00E+00	2,77E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,02E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy –	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	6,15E+01	3,30E-01	9,32E+00	7,12E+01	5,87E+00	5,01E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,69E-01	1,21E+01	1,54E-01	-1,07E+00
Ozone depletion Pot.	kg CFC_{-11}e	4,96E-06	3,86E-09	1,29E-07	5,09E-06	6,77E-08	1,10E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,98E-09	4,38E-09	4,56E-10	1,15E-08
Acidification	kg SO_2e	2,22E-01	1,12E-03	3,58E-02	2,59E-01	9,60E-02	4,60E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,74E-04	2,22E-03	1,21E-04	-2,49E-03
Eutrophication	kg PO_4^3e	4,39E-01	2,75E-04	1,77E-02	4,57E-01	1,15E-02	3,46E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-04	8,11E-04	1,84E-04	7,94E-03
POCP (“smog”)	kg C_2H_4e	2,09E-02	9,30E-05	2,94E-03	2,39E-02	5,00E-03	1,02E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,77E-05	1,62E-04	3,18E-05	-1,08E-03
ADP-elements	kg Sbe	1,74E-03	1,04E-06	3,52E-05	1,78E-03	1,02E-05	8,32E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,32E-07	2,07E-06	4,68E-08	1,41E-05
ADP-fossil	MJ	9,47E+02	4,67E+00	1,01E+02	1,05E+03	7,57E+01	1,23E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,39E+00	2,72E+00	4,84E-01	1,68E-01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	6,13E+01	3,32E-01	9,03E+00	7,07E+01	5,90E+00	2,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,70E-01	1,20E+01	1,59E-01	-1,13E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	**Source 1:** Market for electricity, medium voltage; China, East Grid; Ecoinvent 3.10.1 **Source 2:** Electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted; China, Jiangsu; Ecoinvent 3.10.1
Electricity kg CO2e / kWh	**Source 1:** 0.86 **Source 2:** 0.0785
District heating data source and quality	-
District heating kg CO2e / kWh	-

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Market for transport, freight, lorry, unspecified; World; Ecoinvent 3.10.1 + Market for transport, freight, sea, container ship; World; Ecoinvent 3.10.1
Average transport distance, km	954 + 26042
Capacity utilization (including empty return) %	-
Bulk density of transported products	-
Volume capacity utilization factor	-

Installation scenario documentation A5

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	-
Water use / m³	-
Other resource use / kg	-
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	-
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Cardboard: 3,06 kg; Plastic: 0,11 kg; Paper: 0,06 kg; Silica gel: 0,05 kg
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	Recycling: 2,75 kg; Energy recovery: 0,28 kg; Disposal: 0,26 kg
Direct emissions to ambient air, soil and water / kg	-

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	10,9
Collection process – kg collected with mixed construction waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	3,8
Recovery process – kg for energy recovery	5,0
Disposal (total) – kg for final deposition	2,1
Scenario assumptions e.g. transportation	100 km (Market for transport, freight, lorry, unspecified; World; Ecoinvent 3.10.1)

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15802+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Lucas Rodriguez, as an authorized verifier acting for EPD Hub Limited

29.07.2025