ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Non-combustible Pedestals
Ryno Ltd

EPD HUB, HUB-3480
Published on 17.06.2025, last updated on 17.06.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Ryno Ltd
Address	Castlepoint, Castle Way, Ellon AB41 9RG
Contact details	sales@rynosystems.com
Website	www.rynosystems.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Amos Whiteside, Ryno Ltd
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	Non-combustible Pedestals
Additional labels	Fixed Head Paving Support Pedestals, Self-levelling Paving Support Pedestals, Joist Support Pedestals, Rail Support Pedestals
Product reference	RP-FR, RPA-FR, RD-FR
Place(s) of raw material origin	World
Place of production	Not disclosed
Place(s) of installation and use	United Kingdom
Period for data	Calendar year 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1kg of non-combustible pedestal system
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	4.30E+00
GWP-total, A1-A3 ($kgCO_2e$)	4.09E+00
Secondary material, inputs (%)	17.2
Secondary material, outputs (%)	85
Total energy use, A1-A3 (kWh)	15.7
Net freshwater use, A1-A3 (m^3)	0.04

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Ryno design, manufacture and supply complete integrated systems for outdoor spaces on high-rise buildings including raised floors, roof finishing systems and amenity products. For more information please visit www.rynosystems.com

PRODUCT DESCRIPTION

RYNO's non-combustible pedestals combine strength, precision, and compliance. With height-adjustable and fixed options, they provide a safe, reliable solution for any paving or decking system. The Non-Combustible Adjustable Paving Support Pedestals are crafted from steel, and zinc-nickel electroplated for corrosion resistance. This versatile pedestal offers precise millimetric adjustment across a wide height range, providing a straightforward and practical solution.

Ideal for terraces, podiums, roof decks, and inset balconies, they are suitable for all calibrated paving types, including porcelain, concrete, and natural stone, with a version for supporting DS Joists and RST Rails. The RPA-FR version features ball and socket securable head design for slope correction. The paving spacers bend down or can be removed to allow for flexibility in paver layout. A locking ring ensures absolute stability and no height creep after installation. There are holes in the base for optional fixing to the substrate, and there is a large height range available - 25mm to 500mm+.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	World
Minerals		
Fossil materials		
Bio-based materials		

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.0008945
Biogenic carbon content in packaging, kg C	0.06382

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1kg of non-combustible pedestal system
Mass per declared unit	1 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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

The environmental impacts considered for the product stage cover the manufacturing of materials used in the production as well as packaging materials and other ancillary materials. Also, power 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.

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.

Transportation impacts that occurred from final product delivery to the construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The average distance is assumed to be 910km, which is from the warehouse to central London, which reflects the location of the majority of our customers.

PRODUCT USE AND MAINTENANCE (B1-B7)

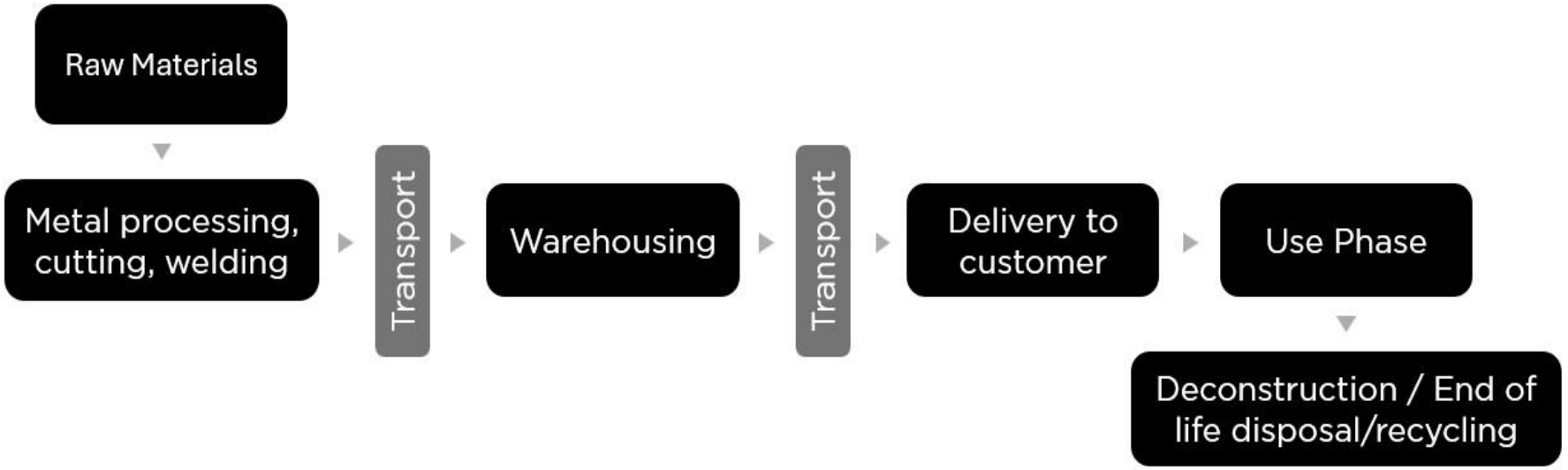
The product is not considered to generate any environmental impacts during the use phase, so these modules are not included.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). Approximately 85% of steel is assumed to be recycled based on World Steel Association, 2020

(C3). It is assumed that the remaining 15% of steel is taken to landfill for final disposal (C4). Due to the recycling process, the end-of-life product is converted into recycled steel, while the wooden pallet is incinerated with energy recovery (D).

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

Proxy data is used for certain materials due to their unavailability in the database.

- Module A1: Zinc coating was used as a proxy datapoint for zinc-nickel electroplating solution

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	0

There is no average result considered in this study since this EPD refers to 1kg of specific product produced in one production plant.

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

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	2.58E+00	1.16E-02	1.50E+00	4.09E+00	1.10E-01	4.42E-01	MND	MND	MND	MND	MND	MND	MND	3.61E-03	5.35E-03	1.92E-02	9.37E-04	-1.46E+00
GWP – fossil	kg CO_2e	2.57E+00	1.15E-02	1.71E+00	4.30E+00	1.09E-01	2.49E-02	MND	MND	MND	MND	MND	MND	MND	3.60E-03	5.35E-03	1.92E-02	9.36E-04	-1.46E+00
GWP – biogenic	kg CO_2e	3.28E-03	2.30E-06	-2.20E-01	-2.17E-01	2.39E-05	4.17E-01	MND	MND	MND	MND	MND	MND	MND	3.68E-07	1.21E-06	-4.08E-05	-2.98E-07	7.49E-05
GWP – LULUC	kg CO_2e	2.69E-03	5.13E-06	4.48E-03	7.17E-03	4.26E-05	4.18E-06	MND	MND	MND	MND	MND	MND	MND	3.69E-07	2.35E-06	2.37E-05	5.35E-07	-2.03E-04
Ozone depletion pot.	kg CFC_{-11}e	2.05E-08	1.72E-10	1.10E-08	3.16E-08	2.28E-09	6.67E-11	MND	MND	MND	MND	MND	MND	MND	5.52E-11	8.37E-11	2.58E-10	2.71E-11	-5.54E-09
Acidification potential	mol H^+e	5.21E-02	6.63E-05	7.91E-03	6.01E-02	2.58E-04	2.69E-05	MND	MND	MND	MND	MND	MND	MND	3.25E-05	1.74E-05	2.29E-04	6.64E-06	-5.80E-03
EP-freshwater[2)]	kg Pe	2.21E-03	8.96E-07	1.29E-03	3.50E-03	7.65E-06	1.35E-06	MND	MND	MND	MND	MND	MND	MND	1.04E-07	4.10E-07	1.24E-05	7.70E-08	-6.25E-04
EP-marine	kg Ne	4.16E-03	2.71E-05	1.82E-03	6.01E-03	6.78E-05	3.78E-05	MND	MND	MND	MND	MND	MND	MND	1.51E-05	5.61E-06	5.06E-05	2.53E-06	-1.28E-03
EP-terrestrial	mol Ne	2.01E-01	2.96E-04	1.69E-02	2.18E-01	7.33E-04	9.28E-05	MND	MND	MND	MND	MND	MND	MND	1.65E-04	6.10E-05	5.72E-04	2.76E-05	-1.40E-02
POCP ("smog")[3)]	kg NMVOCe	1.07E-02	9.62E-05	5.33E-03	1.61E-02	4.49E-04	3.31E-05	MND	MND	MND	MND	MND	MND	MND	4.93E-05	2.62E-05	1.69E-04	9.90E-06	-4.82E-03
ADP-minerals & metals[4)]	kg Sbe	1.24E-04	3.20E-08	2.26E-06	1.27E-04	3.13E-07	3.71E-08	MND	MND	MND	MND	MND	MND	MND	1.29E-09	1.50E-08	1.36E-06	1.49E-09	-1.40E-05
ADP-fossil resources	MJ	3.42E+01	1.69E-01	2.08E+01	5.51E+01	1.64E+00	5.95E-02	MND	MND	MND	MND	MND	MND	MND	4.72E-02	7.80E-02	2.58E-01	2.30E-02	-1.37E+01
Water use[5)]	m^3e depr.	1.43E+00	8.24E-04	2.54E-01	1.68E+00	8.42E-03	1.96E-03	MND	MND	MND	MND	MND	MND	MND	1.18E-04	3.88E-04	4.64E-03	6.63E-05	-2.47E-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

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	6.18E-07	1.43E-09	4.99E-08	6.69E-07	1.07E-08	3.69E-10	MND	MND	MND	MND	MND	MND	MND	9.25E-10	5.34E-10	3.10E-09	1.51E-10	-9.59E-08
Ionizing radiation[6]	kBq U235e	1.12E-01	1.45E-04	5.90E-02	1.71E-01	1.98E-03	3.40E-04	MND	MND	MND	MND	MND	MND	MND	2.09E-05	7.19E-05	2.19E-03	1.44E-05	4.88E-02
Ecotoxicity (freshwater)	CTUe	5.14E+01	2.37E-02	4.57E+00	5.60E+01	1.94E-01	1.67E-01	MND	MND	MND	MND	MND	MND	MND	2.60E-03	1.08E-02	1.50E-01	1.93E-03	-3.56E+00
Human toxicity, cancer	CTUh	5.46E-09	3.88E-12	4.39E-10	5.90E-09	1.82E-11	4.72E-12	MND	MND	MND	MND	MND	MND	MND	3.71E-13	8.84E-13	1.72E-11	1.73E-13	-2.35E-10
Human tox. non-cancer	CTUh	5.39E-08	1.31E-10	2.00E-08	7.40E-08	1.06E-09	2.36E-10	MND	MND	MND	MND	MND	MND	MND	5.87E-12	5.05E-11	1.17E-09	3.97E-12	-1.15E-08
SQP[7]	-	8.45E+00	1.67E-01	1.99E+01	2.85E+01	1.65E+00	4.95E-02	MND	MND	MND	MND	MND	MND	MND	3.30E-03	7.86E-02	5.02E-01	4.52E-02	-4.29E+00

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	1.81E+00	2.28E-03	1.42E+00	3.24E+00	2.68E-02	-2.34E+00	MND	MND	MND	MND	MND	MND	MND	2.99E-04	1.10E-03	4.81E-02	2.22E-04	-9.10E-01
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.88E+00	1.88E+00	0.00E+00	-1.88E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-02
Total use of renew. PER	MJ	1.81E+00	2.28E-03	3.30E+00	5.12E+00	2.68E-02	-4.22E+00	MND	MND	MND	MND	MND	MND	MND	2.99E-04	1.10E-03	4.81E-02	2.22E-04	-8.78E-01
Non-re. PER as energy	MJ	3.42E+01	1.69E-01	1.89E+01	5.32E+01	1.64E+00	-5.72E-01	MND	MND	MND	MND	MND	MND	MND	4.72E-02	7.80E-02	2.58E-01	2.30E-02	-1.37E+01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	6.89E-01	6.89E-01	0.00E+00	-6.89E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-01
Total use of non-re. PER	MJ	3.42E+01	1.69E-01	1.96E+01	5.39E+01	1.64E+00	-1.26E+00	MND	MND	MND	MND	MND	MND	MND	4.72E-02	7.80E-02	2.58E-01	2.30E-02	-1.34E+01
Secondary materials	kg	1.72E-01	7.09E-05	7.55E-02	2.47E-01	7.11E-04	1.02E-04	MND	MND	MND	MND	MND	MND	MND	1.96E-05	3.33E-05	3.15E-04	5.78E-06	7.98E-01
Renew. secondary fuels	MJ	9.46E-05	9.00E-07	2.37E-02	2.38E-02	8.97E-06	6.57E-07	MND	MND	MND	MND	MND	MND	MND	5.12E-08	4.22E-07	1.46E-05	1.20E-07	-1.04E-04
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	3.40E-02	2.47E-05	5.93E-03	3.99E-02	2.43E-04	-5.37E-05	MND	MND	MND	MND	MND	MND	MND	3.12E-06	1.15E-05	1.37E-04	2.39E-05	-3.41E-03

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	8.89E-01	2.83E-04	9.59E-02	9.86E-01	2.38E-03	9.83E-04	MND	MND	MND	MND	MND	MND	MND	5.25E-05	1.29E-04	1.69E-03	2.54E-05	-4.76E-01
Non-hazardous waste	kg	1.92E+01	5.24E-03	6.38E+00	2.56E+01	4.76E-02	1.46E-01	MND	MND	MND	MND	MND	MND	MND	7.15E-04	2.42E-03	6.09E-02	5.80E-04	-3.86E+00
Radioactive waste	kg	2.84E-05	3.55E-08	1.60E-05	4.44E-05	4.90E-07	8.64E-08	MND	MND	MND	MND	MND	MND	MND	5.12E-09	1.76E-08	5.60E-07	3.52E-09	1.27E-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	0.00E+00	0.00E+00	0.00E+00	1.22E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	8.50E-01	0.00E+00	0.00E+00
Materials for energy rec	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
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-01	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	7.10E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.90E-02	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

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	2.56E+00	1.15E-02	1.72E+00	4.30E+00	1.09E-01	3.87E-02	MND	MND	MND	MND	MND	MND	MND	3.59E-03	5.32E-03	1.92E-02	9.28E-04	-1.45E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	2.00E-08	1.37E-10	1.14E-08	3.16E-08	1.82E-09	5.44E-11	MND	MND	MND	MND	MND	MND	MND	4.37E-11	6.68E-11	2.13E-10	2.15E-11	-5.89E-09
Acidification	kg SO_2e	3.16E-02	4.83E-05	6.31E-03	3.79E-02	2.05E-04	2.04E-05	MND	MND	MND	MND	MND	MND	MND	2.29E-05	1.34E-05	1.84E-04	4.91E-06	-4.67E-03
Eutrophication	kg PO_4^3e	6.92E-03	1.20E-05	2.21E-03	9.14E-03	5.11E-05	2.41E-05	MND	MND	MND	MND	MND	MND	MND	5.34E-06	3.26E-06	2.66E-05	1.56E-06	-8.72E-04
POCP (“smog”)	kg C_2H_4e	1.55E-03	3.88E-06	4.07E-04	1.97E-03	2.09E-05	4.98E-06	MND	MND	MND	MND	MND	MND	MND	1.71E-06	1.21E-06	1.09E-05	4.65E-07	-7.30E-04
ADP-elements	kg Sbe	1.24E-04	3.12E-08	2.22E-06	1.26E-04	3.06E-07	3.63E-08	MND	MND	MND	MND	MND	MND	MND	1.26E-09	1.46E-08	1.36E-06	1.46E-09	-1.40E-05
ADP-fossil	MJ	3.25E+01	1.66E-01	2.00E+01	5.26E+01	1.61E+00	5.36E-02	MND	MND	MND	MND	MND	MND	MND	4.68E-02	7.69E-02	2.20E-01	2.28E-02	-1.46E+01

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

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	2.58E+00	1.16E-02	1.72E+00	4.30E+00	1.09E-01	2.49E-02	MND	MND	MND	MND	MND	MND	MND	3.61E-03	5.35E-03	1.92E-02	9.37E-04	-1.46E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Market for electricity, medium voltage (Reference product: electricity, medium voltage)
Electricity CO2e / kWh	1.41
District heating data source and quality	-
District heating CO2e / kWh	-

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	0.001
Average transport distance, km	910
Capacity utilization (including empty return) %	100
Bulk density of transported products	7850
Volume capacity utilization factor	1

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	1
Collection process – kg collected with mixed waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	0.85
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	0.15
Scenario assumptions e.g. transportation	

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

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
17.06.2025