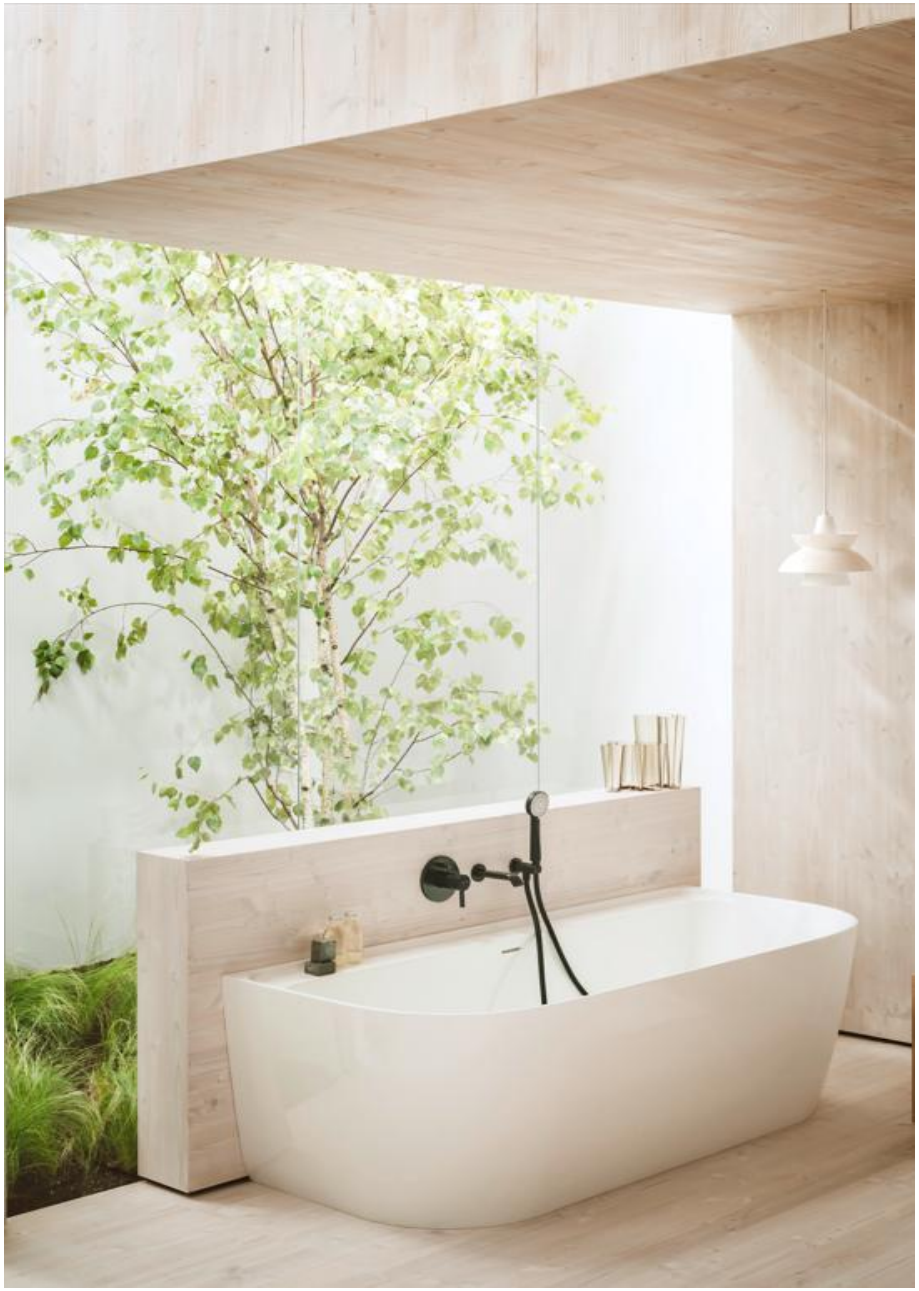


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Marbond® shower trays, bathtubs and basins.

EPD HUB, EPD number HUB-5686
Published on 12.03.2026
Last updated on 12.03.2026
Valid until 11.03.2031

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	LAUFEN
Address	Wahlenstrasse 46, 4242 Laufen CH, Switzerland
Contact details	info@es.laufen.com
Website	www.laufen.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	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Elisa Pelaez (Sustainability Department, Roca Group)
EPD verification	Independent verification of this EPD and data, according to ISO 14025: o Internal verification þ External verification
EPD verifier	Yazan Badour, as 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	Marbond® shower trays, bathtubs and basins.
Additional labels	-
Product reference	-
Place(s) of raw material origin	Spain, Portugal, Italy
Place of production	Portugal / Poland
Place(s) of installation and use	Europe
Period for data	Calendar year 2024
Averaging in EPD	Multiple products and multiple factories
Variation in GWP-fossil for A1-A3 (%)	+23,77
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	9,73

ENVIRONMENTAL DATA SUMMARY

Declared unit	1Kg Marbond® composite product
Declared unit mass	1 kg
Mass of packaging	0,081 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	1,22
GWP-total, A1-A3 ($kgCO_2e$)	1,12
Secondary material, inputs (%)	0,54
Secondary material, outputs (%)	3,17
Total energy use, A1-A3 (kWh)	5,61
Net freshwater use, A1-A3 (m^3)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

LAUFEN is dedicated to the production and sale of bathroom solutions that enrich people's everyday lives by creating unique spaces for wellbeing, personal care and health.

LAUFEN is the premium brand of Roca Group, a family-owned global enterprise driven by the Purpose of contributing to the well-being of society by delivering solutions that enhance everyday spaces, while caring for People and the Planet, and fostering Prosperity. Its commitment to sustainable development is deeply rooted in the organization—both as a strategic priority and through concrete actions. It is reflected in initiatives that translate this ambition into measurable improvements, ensuring that its day-to-day operations consistently contribute to a more positive and lasting impact.

Further information can be found at www.laufen.com and www.rocagroup.com

PRODUCT DESCRIPTION

Marbond® composite products mainly include shower trays, bathtubs and basins.
These products are made of mineral materials as calcium magnesium carbonate, calcium carbonate and unsaturated polyester resins
The process consist of mould painting with gel coat, casting the mix of resin and mineral fillers, demoulding taking the product to the curing phase, finishing, inspection and packing.
To calculate the environmental impact, a representative average sanitaryware product based on the total volume manufactured in 2024 has been considered.

Further information can be found at:

www.laufen.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	74,3	EUROPE
Fossil materials	25,7	EUROPE
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,0003
Biogenic carbon content in packaging, kg C	0,0281

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1Kg Marbond® product
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	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 = ND. 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.

This EPD includes Marbond® bathtubs, basins, and shower trays.
These products are made of mineral materials such calcium magnesium carbonate, calcium carbonate and unsaturated polyester resins
The process consists of mould painting with gel coat, casting the mix of resin and mineral fillers, demoulding taking the product to the curing phase, finishing, inspection and packing.
The manufacturing process requires electricity for the different equipment.
The finished product is packaged and sent to the warehouse. Transport from suppliers is calculated according to the corresponding sales volumes.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

TRANSPORT AND INSTALLATION (A4-A5)

Module not declared.

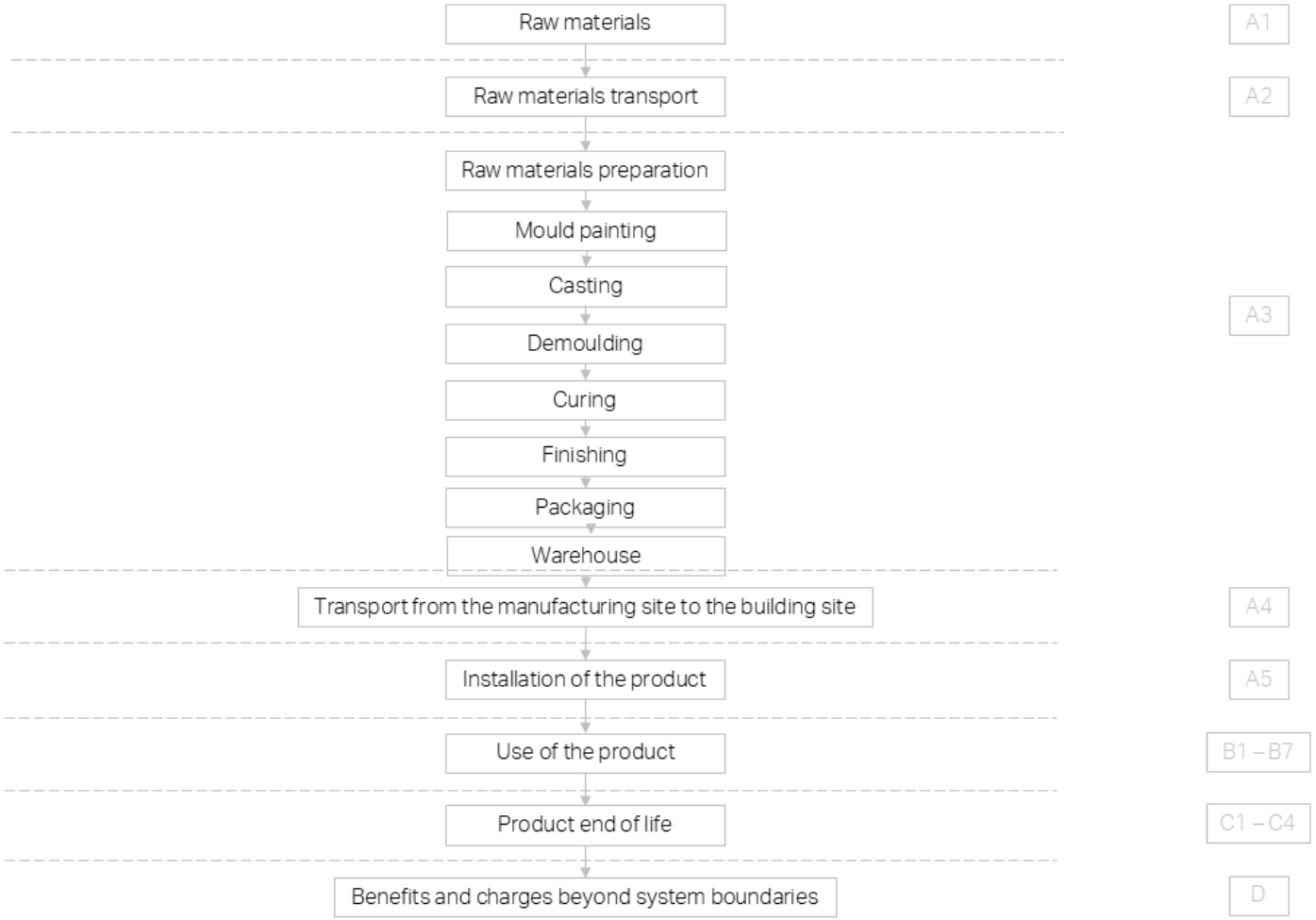
PRODUCT USE AND MAINTENANCE (B1-B7)

Module not declared.

PRODUCT END OF LIFE (C1-C4, D)

Energy consumption and natural resources of the disassembling end-of-life product and the impacts of demolition process are assumed to be zero due to the negligible consumptions (C1). Concerning the end-of-life product, it is assumed to be sent to the closest waste disposal facility by lorry, estimated to be 100km away (C2). Although part of the product is suitable for incineration, it is conservatively assumed to be disposed of in an inert landfill. The benefits and loads of recycling of packaging waste are included in Module D.

SYSTEM DIAGRAM



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 that is 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.

All industrial processes from raw material acquisition and pre-processing, production and end-of-life management are included. Further, water used for cleaning, transportation and waste streams of the packaging materials used for delivering the raw materials to the factory are omitted since the quantified mass contribution is less than 0.1%. The production of capital equipment, construction activities, and infrastructure, 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 made according to 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	No allocation
Manufacturing energy and waste	No allocation

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products and multiple factories
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	+23,77

Primary data represents the manufacturers manufacturing sites of Anadia (Portugal) and Gryfice (Poland). The data was used to calculate average impacts for the product. The primary data was averaged by calculating a

weighed average of the sites consumption of raw materials and energy, and production of waste. The share of production volume per each site was used in the weighting. GWP Variation is caused by different share of product types produced and share of electricity consumed per manufacturing site

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 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	1,06E+00	9,11E-02	-3,28E-02	1,12E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,16E-02	7,72E-02	1,68E-01	-1,92E-02
GWP – fossil	kg CO_2e	1,06E+00	9,10E-02	6,97E-02	1,22E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,15E-02	6,51E-03	9,37E-02	-1,22E-02
GWP – biogenic	kg CO_2e	1,00E-03	2,05E-05	-1,03E-01	-1,02E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,59E-06	7,06E-02	7,42E-02	-7,03E-03
GWP – LULUC	kg CO_2e	7,74E-04	4,07E-05	5,67E-04	1,38E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,09E-06	3,32E-06	7,89E-06	5,44E-05
Ozone depletion pot.	kg CFC_{-11}e	3,26E-08	1,34E-09	2,34E-09	3,63E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,74E-10	2,00E-11	2,99E-10	-2,30E-10
Acidification potential	mol H^+e	4,58E-03	3,10E-04	2,17E-04	5,11E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,91E-05	1,05E-05	8,70E-05	-7,38E-05
EP-freshwater[2)]	kg Pe	2,91E-04	7,09E-06	1,56E-05	3,14E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,90E-07	4,39E-07	1,48E-06	-1,34E-05
EP-marine	kg Ne	7,93E-04	1,02E-04	7,37E-05	9,69E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,29E-05	4,51E-06	2,11E-03	-1,86E-05
EP-terrestrial	mol Ne	8,08E-03	1,11E-03	6,84E-04	9,87E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,40E-04	4,29E-05	3,48E-04	-1,82E-04
POCP ("smog")[3)]	kg NMVOCe	4,77E-03	4,58E-04	3,06E-04	5,53E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,79E-05	1,23E-05	1,39E-04	-6,78E-05
ADP-minerals & metals[4)]	kg Sbe	1,28E-05	2,54E-07	2,50E-07	1,33E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,26E-08	6,58E-09	2,63E-08	-2,81E-08
ADP-fossil resources	MJ	2,38E+01	1,32E+00	1,26E+00	2,64E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-01	1,99E-02	2,58E-01	-2,30E-01
Water use[5)]	m^3e depr.	2,38E-01	6,53E-03	2,65E-02	2,71E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,26E-04	1,02E-03	1,32E-03	3,73E-03

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	4,93E-08	9,12E-09	2,85E-09	6,13E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,14E-09	1,46E-10	1,88E-09	-6,42E-10
Ionizing radiation[6)]	kBq U235e	9,05E-02	1,15E-03	4,42E-03	9,60E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,50E-04	9,36E-05	2,77E-04	-1,69E-03
Ecotoxicity (freshwater)	CTUe	2,36E+01	1,87E-01	4,40E+00	2,81E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,35E-02	1,05E-02	3,48E+00	-2,95E-02
Human toxicity, cancer	CTUh	1,34E-09	1,50E-11	1,17E-10	1,47E-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,91E-12	1,41E-12	1,12E-11	-1,86E-12
Human tox. non-cancer	CTUh	1,06E-08	8,55E-10	4,04E-10	1,18E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,08E-10	6,59E-11	2,26E-09	-6,45E-11
SQP[7)]	-	3,42E+00	1,33E+00	9,16E+00	1,39E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,64E-01	1,28E-02	5,96E-01	-1,19E+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	1,13E+00	1,81E-02	6,21E-01	1,77E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,33E-03	-7,06E-01	-4,35E-01	-2,17E-02
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,14E+00	1,14E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-7,48E-01	-3,92E-01	1,88E-01
Total use of renew. PER	MJ	1,13E+00	1,81E-02	1,76E+00	2,91E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,33E-03	-1,45E+00	-8,27E-01	1,66E-01
Non-re. PER as energy	MJ	1,60E+01	1,32E+00	1,03E+00	1,84E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-01	-1,07E-01	-3,61E+01	-2,32E-01
Non-re. PER as material	MJ	7,78E+00	0,00E+00	2,41E-01	8,02E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,75E-01	-7,85E+00	9,10E-02
Total use of non-re. PER	MJ	2,38E+01	1,32E+00	1,27E+00	2,64E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-01	-2,82E-01	-4,40E+01	-1,41E-01
Secondary materials	kg	5,41E-03	5,62E-04	1,49E-02	2,09E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,15E-05	2,61E-05	9,28E-05	8,41E-03
Renew. secondary fuels	MJ	6,99E-05	7,14E-06	3,49E-02	3,49E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,08E-07	1,91E-07	1,73E-06	-2,99E-07
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	6,40E-03	1,95E-04	6,00E-04	7,20E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,46E-05	1,08E-05	-3,80E-03	5,25E-05

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	6,05E-02	2,24E-03	2,95E-03	6,57E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,80E-04	2,93E-04	4,64E-04	-5,12E-04
Non-hazardous waste	kg	1,80E+00	4,14E-02	1,46E-01	1,98E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,23E-03	2,59E-02	5,11E+00	-6,58E-02
Radioactive waste	kg	2,34E-05	2,82E-07	1,13E-06	2,48E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,68E-08	2,35E-08	6,77E-08	-4,34E-07

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	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,17E-02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,33E-01	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,58E-02	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,75E-02	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	1,05E+00	9,05E-02	7,00E-02	1,21E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,15E-02	6,58E-03	9,22E-02	-1,21E-02
Ozone depletion Pot.	kg CFC_{-11}e	2,74E-08	1,07E-09	1,91E-09	3,04E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,39E-10	1,64E-11	2,39E-10	-1,89E-10
Acidification	kg SO_2e	3,84E-03	2,37E-04	1,66E-04	4,24E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,99E-05	7,81E-06	6,44E-05	-5,83E-05
Eutrophication	kg PO_4^3e	3,79E-03	5,78E-05	1,04E-03	4,89E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,30E-06	2,31E-06	1,09E-04	-1,05E-05
POCP (“smog”)	kg C_2H_4e	4,74E-04	2,11E-05	2,67E-05	5,22E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,68E-06	6,46E-07	1,87E-05	-5,15E-06
ADP-elements	kg Sbe	1,08E-05	2,48E-07	2,44E-07	1,13E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,18E-08	6,33E-09	2,55E-08	-2,87E-08
ADP-fossil	MJ	2,22E+01	1,30E+00	1,19E+00	2,47E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,65E-01	1,83E-02	2,54E-01	-2,00E-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	1,06E+00	9,11E-02	7,03E-02	1,22E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,16E-02	6,51E-03	9,37E-02	-1,22E-02

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.

ENVIRONMENTAL IMPACTS – TRACI 2.1.

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	1,04E+00	8,98E-02	6,92E-02	1,20E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,14E-02	6,57E-03	8,53E-02	-1,20E-02
Ozone Depletion	kg $CFC_{-11}e$	3,44E-08	1,42E-09	2,45E-09	3,82E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-10	2,12E-11	3,16E-10	-2,44E-10
Acidification	kg SO_2e	3,84E-03	2,76E-04	1,90E-04	4,31E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,48E-05	9,53E-06	8,35E-05	-6,17E-05
Eutrophication	kg Ne	2,56E-03	2,91E-05	4,04E-04	2,99E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,67E-06	2,31E-06	2,08E-04	-1,59E-05
POCP (“smog”)	kg O_3e	5,68E-02	7,03E-03	4,09E-03	6,79E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,88E-04	2,51E-04	2,10E-03	-9,67E-04
ADP-fossil	MJ	1,61E+01	1,32E+00	6,43E-01	1,80E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-01	-1,07E-01	-3,61E+01	-2,32E-01

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Heat production, natural gas, at industrial furnace >100kW, Albania, Ecoinvent, 0.0773 kgCO2e/MJ
2. Electricity, medium voltage, European attribute mix, Europe, Ecoinvent, 0.0011 kgCO2e/kWh

End of Life scenario documentation - C1-C4 (Data source)

1. Exported Energy: Electricity, Ecoinvent, 0.0018 MJ
2. Exported Energy: Electricity, Ecoinvent, 0.044 MJ
3. Exported Energy: Electricity, Ecoinvent, 0.01 MJ
4. Exported Energy: Thermal, Ecoinvent, 0.0025 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.061 MJ
6. Exported Energy: Thermal, Ecoinvent, 0.014 MJ
7. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 8.8E-4 kg
8. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 9.9E-4 kg
9. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0091 kg
10. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.021 kg
11. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.02 kg
12. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.025 kg
13. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 1.0 kg
14. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0016 kg
15. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.0015 kg
16. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 9.4E-4 kg

Scenario information	Value
Scenario assumptions e.g. transportation	To landfill: 100 km for the product and 50 Km for the packaging. To recycling: 50 km for the packaging To incineration: 50 km for the packaging

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 is 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 15804+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

Yazan Badour, as authorized verifier acting for EPD HUB Limited

12.03.2026