



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Ball valve - VEE Easyfit

Aliaxis Italy - FIP



EPD HUB, EPD number HUB-4819

Published on 09.01.2026, last updated on 09.01.2026, valid until 08.01.2031

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Aliaxis Italy - FIP
Address	Località Pian di Parata - 16015 Casella (Genova), Italy
Contact details	info.fip@aliaxis.com
Website	www.aliaxis.it

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction 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	Elisa Lemonnier - Aliaxis
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Sergio Ballen Zamora, 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	Ball valve - VEE Easyfit
Additional labels	-
Product reference	-
Place of production	Casella (GE) - Italy
Period for data	01/01/2024 - 31/12/2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	< 10
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
Mass of packaging	0.122 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3.25E+00
GWP-total, A1-A3 (kgCO ₂ e)	3.08E+00
Secondary material, inputs (%)	1.47
Secondary material, outputs (%)	31.3
Total energy use, A1-A3 (kWh)	15.3
Net freshwater use, A1-A3 (m ³)	0.03

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Aliaxis is a global leader in advanced plastic piping systems for industrial, building, infrastructure and agriculture applications. For each of these segments, we offer a comprehensive range of high-quality products and solutions that meet our customers' most demanding needs across the globe.

Aliaxis, with a global workforce of about 15,500 employees, is active through leading local brands and operates in over 40 countries, combining local solutions with global innovation and operational excellence.

Aliaxis supplies installers and technicians worldwide with products and solutions to get projects up and running in an easy and reliable way. We aim to add value for the end-users: people in their homes, farmers, industries, and governments. Whatever the challenges in terms of size, volume or height, whatever the constraints in industrial, infrastructure projects or with irrigation requirements on agricultural land, we always strive to offer the appropriate products and solutions.

PRODUCT DESCRIPTION

FIP and Giugiaro Design have designed and developed VEE Easyfit, the innovative true union installation ball valve which introduces an advanced method of installation for a long trouble-free service. VEE Easyfit is made of PVC-U, EPDM (for gaskets) and PE (for ball seats).

- Size ranges from DN 10 up to DN 50
- Joining by solvent welding or threaded connections
- Maximum working pressure: 16 bar at 20° C

- New patented Easyfit system: based on the principle of the bevel gear pair has been applied to design the mechanism that controls the rotation of the union nuts during the valve installation.

The use of the Easyfit multifunctional handle is the best solution to carry out maintenance operations in narrow spaces with limited access to the valve location.

- Easy removal of the valve body from the system, allowing quick replacement of O-rings and ball seats without additional equipment
- Compact design with true union installation "short dimensions". Fully interchangeable with the previous FIP ball valves VE series
- In the closed position the pipeline can be disconnected downstream from the valve without leakage
- Safe locked carrier with adjustment of ball seal
- Block with adjustment of ball seal
- Easyfit ergonomic multifunctional handle with union nut rotation control and ball seat carrier adjustment wrench
- FIP U-PVC is suitable for conveying foodstuffs and drinking water and meets the necessary standards and regulations

Further information can be found at www.aliaxis.it.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	100	Europe
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0534

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
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	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	Deconstr./demol.	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.

The raw materials used to produce these valves are PVC-U, EPDM (for gaskets) and PE (for ball seats). Half of the PVC-U compound used for the production of this valve is produced internally, by mixing the PVC-U resin to other components (additives, colorants, stabilizers...) while the other half of PVC-U compound is bought externally.

80% of the PVC-U used for the production of these valves is virgin while the other 20% comes from internal recycling PVC-U (scrap). Either EPDM gaskets or PE (for ball seats) are bought externally.

Valves, once produced, are placed inside a cardboard boxes (pieces per carton varying to valve dimension). Wooden pallets are also used when customers buy multiple cardboard boxes.

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 transportation distance from production to the building site corresponds to an average transport distance based on Aliaxis Italy sales. The transportation method used is lorry. The packaging waste are taken into account in the installation section (A5).

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

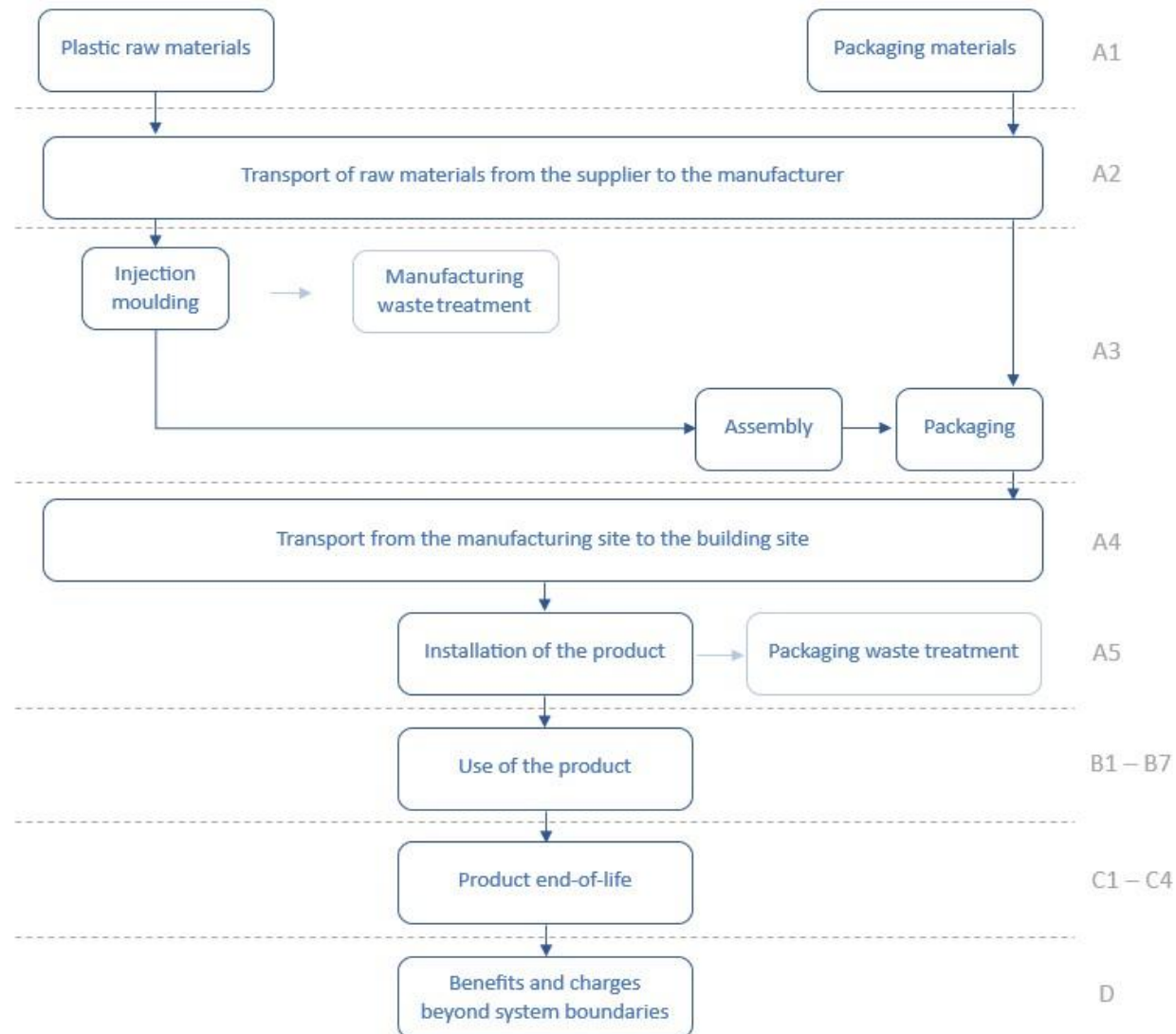
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life product materials are transported by lorry to several facilities: a recycling facility 1000 km from the demolition site, an incineration facility 1000 km away and a landfill facility 1000 km away (C2). The PVC-U is collected from the demolition site: 30.6 % is sent for incineration, 32.1 % is recycled and 37.3 % is landfilled. The EPDM is collected from the demolition site: 45 % is sent for incineration and 55 % is landfilled. The PE is collected from the demolition site: 45 % is sent for incineration and 55% is landfilled (C3 - C4).

The benefits and loads of PVC-U recycling are considered in module D. The energy and heat produced by the incineration of each material and of waste packaging materials are also taken into account 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 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.

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/AC2021 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	No allocation
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3 (%)	< 10 %

This EPD is based on an average of multiple products. The products are manufactured at the same Aliaxis plant in Casella. The manufacturing process and main raw materials are similar for all products.

The average includes the following products :

- VEEIV016E
- VEEIV020E
- VEEIV025E
- VEEIV032E
- VEEIV040E
- VEEIV050E
- VEEIV063E

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'.

No other sources were used in the modelling of this EPD.

ENVIRONMENTAL IMPACT DATA

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 ₂ e	2,28E+00	4,07E-02	7,60E-01	3,08E+00	1,69E-01	1,85E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-01	6,76E-01	2,58E-02	-8,60E-01
GWP – fossil	kg CO ₂ e	2,28E+00	4,07E-02	9,27E-01	3,25E+00	1,68E-01	1,41E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-01	6,76E-01	2,58E-02	-7,46E-01
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	-1,71E-01	-1,71E-01	0,00E+00	1,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,13E-01
GWP – LULUC	kg CO ₂ e	1,96E-03	1,82E-05	3,41E-03	5,38E-03	7,54E-05	6,42E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,80E-05	8,02E-05	2,81E-06	-1,99E-03
Ozone depletion pot.	kg CFC-11e	8,33E-07	6,00E-10	2,55E-08	8,59E-07	2,49E-09	2,09E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,58E-09	2,98E-09	1,10E-10	-2,54E-07
Acidification potential	mol H ⁺ e	8,24E-03	1,39E-04	2,72E-03	1,11E-02	5,74E-04	5,36E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,66E-04	4,71E-04	3,17E-05	-2,94E-03
EP-freshwater ²⁾	kg Pe	7,56E-04	3,17E-06	1,49E-04	9,08E-04	1,31E-05	1,34E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,36E-06	2,93E-05	1,07E-06	-2,27E-04
EP-marine	kg Ne	1,64E-03	4,56E-05	6,21E-04	2,30E-03	1,89E-04	3,84E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,20E-04	1,41E-04	1,54E-04	-5,91E-04
EP-terrestrial	mol Ne	1,56E-02	4,96E-04	5,91E-03	2,20E-02	2,05E-03	1,95E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,31E-03	1,30E-03	1,26E-04	-5,51E-03
POCP (“smog”) ³⁾	kg NMVOCe	9,43E-03	2,04E-04	2,52E-03	1,22E-02	8,47E-04	8,09E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,39E-04	4,17E-04	4,98E-05	-3,04E-03
ADP-minerals & metals ⁴⁾	kg Sbe	3,85E-05	1,13E-07	1,56E-06	4,02E-05	4,70E-07	3,87E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,99E-07	7,56E-07	1,01E-08	-1,06E-05
ADP-fossil resources	MJ	5,62E+01	5,90E-01	1,48E+01	7,16E+01	2,44E+00	2,03E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E+00	1,03E+00	9,50E-02	-1,70E+01
Water use ⁵⁾	m ³ e depr.	6,73E-01	2,91E-03	4,01E-01	1,08E+00	1,21E-02	2,12E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,69E-03	7,95E-01	5,03E-04	-1,46E-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	6,44E-08	4,07E-09	1,70E-08	8,54E-08	1,69E-08	1,42E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-08	4,20E-09	6,84E-10	-2,30E-08
Ionizing radiation ⁶⁾	kBq 11235e	3,01E-01	5,14E-04	8,07E-02	3,82E-01	2,13E-03	1,89E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,36E-03	4,00E-03	9,65E-05	-6,46E-02
Ecotoxicity (freshwater)	CTUe	1,30E+01	8,35E-02	1,64E+00	1,47E+01	3,46E-01	5,15E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,20E-01	3,35E+01	3,16E+01	-3,90E+00
Human toxicity, cancer	CTUh	3,83E-09	6,71E-12	1,86E-10	4,02E-09	2,78E-11	3,69E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,77E-11	1,94E-10	2,02E-12	-1,15E-09
Human tox. non-cancer	CTUh	2,71E-08	3,82E-10	3,84E-09	3,14E-08	1,58E-09	2,48E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,01E-09	3,04E-09	2,02E-10	-7,56E-09
SQP ⁷⁾	-	7,67E+00	5,94E-01	9,24E+00	1,75E+01	2,46E+00	2,09E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E+00	4,98E-01	2,18E-01	-1,54E+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	3,29E+00	8,09E-03	3,20E+00	6,50E+00	3,35E-02	-8,74E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,13E-02	9,74E-02	-7,47E-02	-1,12E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,47E+00	1,47E+00	0,00E+00	-1,47E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,74E-01
Total use of renew. PER	MJ	3,29E+00	8,09E-03	4,67E+00	7,97E+00	3,35E-02	-2,35E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,13E-02	9,74E-02	-7,47E-02	-1,42E-01
Non-re. PER as energy	MJ	3,33E+01	5,90E-01	1,48E+01	4,87E+01	2,44E+00	2,03E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E+00	-5,83E+00	-7,97E+00	-2,35E+01
Non-re. PER as material	MJ	2,29E+01	0,00E+00	3,44E-02	2,29E+01	0,00E+00	-3,44E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-7,05E+00	-1,58E+01	1,32E+01
Total use of non-re. PER	MJ	5,62E+01	5,90E-01	1,48E+01	7,16E+01	2,44E+00	1,68E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E+00	-1,29E+01	-2,38E+01	-1,03E+01
Secondary materials	kg	1,47E-02	2,51E-04	8,08E-02	9,57E-02	1,04E-03	9,14E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,63E-04	3,71E-04	3,41E-05	3,19E-01
Renew. secondary fuels	MJ	3,33E-04	3,19E-06	2,32E-02	2,35E-02	1,32E-05	1,14E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,42E-06	1,00E-04	6,38E-07	-1,01E-02
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	1,78E-02	8,72E-05	1,25E-02	3,04E-02	3,61E-04	-6,29E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,30E-04	1,85E-02	-1,39E-03	-4,76E-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	1,36E-01	1,00E-03	2,67E-02	1,64E-01	4,14E-03	6,00E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,64E-03	1,86E-01	1,70E-04	-3,82E-02
Non-hazardous waste	kg	7,00E+01	1,85E-02	6,81E-01	7,07E+01	7,67E-02	1,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,88E-02	7,40E-01	1,87E+00	-2,09E+01
Radioactive waste	kg	7,84E-05	1,26E-07	2,13E-05	9,98E-05	5,21E-07	4,63E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,32E-07	1,03E-06	2,36E-08	-1,72E-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	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	9,70E-02	9,70E-02	0,00E+00	1,42E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,20E-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	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	0,00E+00	1,00E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,40E+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	3,30E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,01E-01	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	6,70E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,70E+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 ₂ e	2,26E+00	4,04E-02	9,28E-01	3,23E+00	1,68E-01	2,97E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-01	6,77E-01	2,90E-02	-7,35E-01
Ozone depletion Pot.	kg CFC ₁₁ e	8,28E-07	4,79E-10	2,09E-08	8,50E-07	1,98E-09	1,67E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,26E-09	2,85E-09	8,83E-11	-2,52E-07
Acidification	kg SO ₂ e	6,83E-03	1,06E-04	2,21E-03	9,15E-03	4,39E-04	4,07E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,79E-04	3,72E-04	2,35E-05	-2,43E-03
Eutrophication	kg PO ₄ ³ e	2,60E-03	2,58E-05	7,73E-04	3,40E-03	1,07E-04	2,34E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,81E-05	7,17E-05	2,32E-05	-8,08E-04
POCP (“smog”)	kg C ₂ H ₄ e	6,65E-04	9,44E-06	1,88E-04	8,62E-04	3,91E-05	6,87E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,49E-05	3,44E-05	6,21E-06	-2,22E-04
ADP-elements	kg Sbe	3,11E-05	1,11E-07	1,52E-06	3,27E-05	4,58E-07	3,74E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,92E-07	4,72E-07	9,87E-09	-8,41E-06
ADP-fossil	MJ	5,09E+01	5,82E-01	1,33E+01	6,48E+01	2,41E+00	2,00E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,54E+00	9,69E-01	9,35E-02	-1,58E+01

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	3,11E-05	1,11E-07	1,52E-06	3,27E-05	4,58E-07	3,75E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,92E-07	4,72E-07	9,87E-09	-8,41E-06
Hazardous waste disposed	kg	1,36E-01	1,00E-03	2,67E-02	1,64E-01	4,14E-03	6,00E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,64E-03	1,86E-01	1,70E-04	-3,82E-02
Non-haz. waste disposed	kg	7,00E+01	1,85E-02	6,81E-01	7,07E+01	7,67E-02	1,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,88E-02	7,40E-01	1,87E+00	-2,09E+01
Air pollution	m³	4,65E+02	9,80E+00	1,13E+02	5,87E+02	4,06E+01	3,41E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,59E+01	3,10E+01	1,03E+00	-1,34E+02
Water pollution	m³	3,93E+01	2,71E-01	6,34E+00	4,59E+01	1,12E+00	9,61E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,16E-01	4,79E-01	5,10E-02	-1,14E+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 ₂ e	2,28E+00	4,07E-02	9,31E-01	3,26E+00	1,69E-01	1,41E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-01	6,76E-01	2,58E-02	-7,48E-01

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

DATA SOURCES

Manufacturing energy scenario documentation

1. Market for heat, district or industrial, natural gas, Europe, Ecoinvent, 0.0564 kgCO₂e/MJ
2. Market for heat, district or industrial, other than natural gas, Europe, Ecoinvent, 0.0707 kgCO₂e/MJ
3. Market for electricity, medium voltage, Italy, Ecoinvent, 0.37 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 1395 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	-
Volume capacity utilization factor	-

Installation scenario documentation - A5 (Installation waste)

1. Materials for recycling kg, Materials for recycling
2. Treatment of waste paperboard, sanitary landfill, Ecoinvent
3. Treatment of waste paperboard, municipal incineration, Ecoinvent
4. Exported Energy: Thermal, Ecoinvent
5. Exported Energy: Electricity, Ecoinvent
6. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent
7. Treatment of waste wood, untreated, municipal incineration, Ecoinvent

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m ³	0
Other resource use / kg	0
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	0
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Packaging: 0.122 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	0
Direct emissions to ambient air, soil and water / kg	0

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

1. Treatment of waste polyvinylchloride, municipal incineration, Ecoinvent
2. Exported Energy: Thermal, Ecoinvent
3. Exported Energy: Electricity, Ecoinvent
4. Materials for recycling kg, Materials for recycling
5. Treatment of waste polyvinylchloride, sanitary landfill, Ecoinvent
6. Treatment of municipal solid waste, sanitary landfill, Ecoinvent
7. Treatment of waste rubber, unspecified, municipal incineration, Ecoinvent
8. Treatment of waste polyethylene, sanitary landfill, Ecoinvent
9. Treatment of waste polyethylene, municipal incineration, Ecoinvent

Scenario information	Value
Collection process – kg collected separately	1 kg
Collection process – kg collected with mixed construction waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	0.31 kg
Recovery process – kg for energy recovery	0.315 kg
Disposal (total) – kg for final deposition	0.375 kg
Scenario assumptions e.g. transportation	Market for transport, freight, lorry >32 metric ton, EURO6

VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier and has been generated using a pre-verified tool. 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 cannot identify any unjustified deviations, by the Environmental Product Declaration and by its project report from the requirements outlined in the corresponding product category regulations based on EN 15804+A2.

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. EPD Hub confirms that it possesses sufficient knowledge and experience in construction products and the relevant standards to carry the verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency; the manufacturer(s) or group of manufacturers are responsible for its factual integrity.

EPD Hub has performed a detailed examination of the pre-verified tool and underlying data to ensure that there are no deviations in the studied Environmental Product Declaration (EPD), its Life Cycle Assessment (LCA), and project report. The tool is implemented according to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules version 1.1 and General Program Instructions version 1.2.

Tool verifier: Hai Ha Nguyen

Tool verification validity: 20 Dec 2024 - 19 Dec 2027

Sergio Ballen Zamora, as authorized verifier acting for EPD HUB Limited
09.01.2026

