ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Brymec HDPE Fusion Weld Waste & Drainage

EPD HUB, HUB-5663

Published on 09.03.2026, last updated on 09.03.2026, valid until 08.03.2031

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Brymec Ltd.
Address	Unit C, Redlands, Coulsdon, Surrey, United Kingdom, CR5 2HT
Contact details	sales@brymec.com
Website	https://www.brymec.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
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Adeleh Ghodsizadeh, Blue Marble Environmental Partnerships Ltd.
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	D.V, 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	Brymec HDPE Fusion Weld Waste & Drainage
Additional labels	-
Product reference	See Annex for List of Included Products
Place(s) of raw material origin	Italy
Place of production	Italy
Place(s) of installation and use	United Kingdom
Period for data	Calendar Year (2023)
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	n/a
A1-A3 Specific data (%)	2.35

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
Mass of packaging	0.621 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3.45E+00
GWP-total, A1-A3 ($kgCO_2e$)	3.47E+00
Secondary material, inputs (%)	1.65
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	15.9
Net freshwater use, A1-A3 (m^3)	0.03

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Brymec Ltd is a turnkey solutions provider to the building services industry, delivering complete M&E solutions alongside end-to-end project support, all backed by exceptional customer service and technical expertise.

Established in 1974 as a family business, Brymec manufactures a wide range of high-quality M&E products, delivered directly to site through a single point of contact via its innovative supply chain model: Brymec Breeze

PRODUCT DESCRIPTION

This EPD is representative of Brymec HDPE pipes manufactured from HDPE (High-Density Polyethylene). All pipes conform to BS EN1254-1:1998 and are guaranteed against manufacturing defects for 25 years. For full traceability all fittings are etched or stamped with unique branding; together with the EN specification reference and fitting size where space permits.

The results of this EPD are representative for 1kg of Brymec HDPE Fusion Weld Waste & Drainage system. To calculate actual impacts per unit the results should be multiplied by the unit mass contained in the annex.

Further information can be found at: https://www.brymec.com/

PRODUCT RAW MATERIAL MAIN COMPOSITION

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

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	0.25

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	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 is representative of Brymec HDPE Fusion Weld Waste & Drainage manufactured from High Density Polyethylene (HDPE). The products are sourced from a single manufacturing facility in Italy where the raw material is received, extruded into the desired shapes, finished and packed for shipping to the UK. (A1/A2).

Transportation to the Brymec warehouse in the UK is via >32 tonne lorry (A2).

The products are received at the Brymec warehouse where they are unloaded and stored in the Brymec warehouse ready for dispatch. Medium voltage electricity drawn from the UK grid is used to supply energy to the warehouse. An Ecoinvent country-specific average electricity dataset (residual mix) has been used to model direct supply of electricity.

When an order is ready to be shipped it is packaged in a cardboard box and loaded for onward transportation to the customer (A3).

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not consider the transportation to site and installation modules. Air, soil, and water impacts during the construction phase have not been studied.

Due to this EPD not disclosing the Installation phase, packaging waste has been excluded from the scope of this study.

In line with EPD Hub Core PCR Version 1.2, 24 Mar 2025, due to the exclusion of module A5, biogenic CO_2 of packaging has been balanced-out in the A1-A3 results.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not consider the use phase modules. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

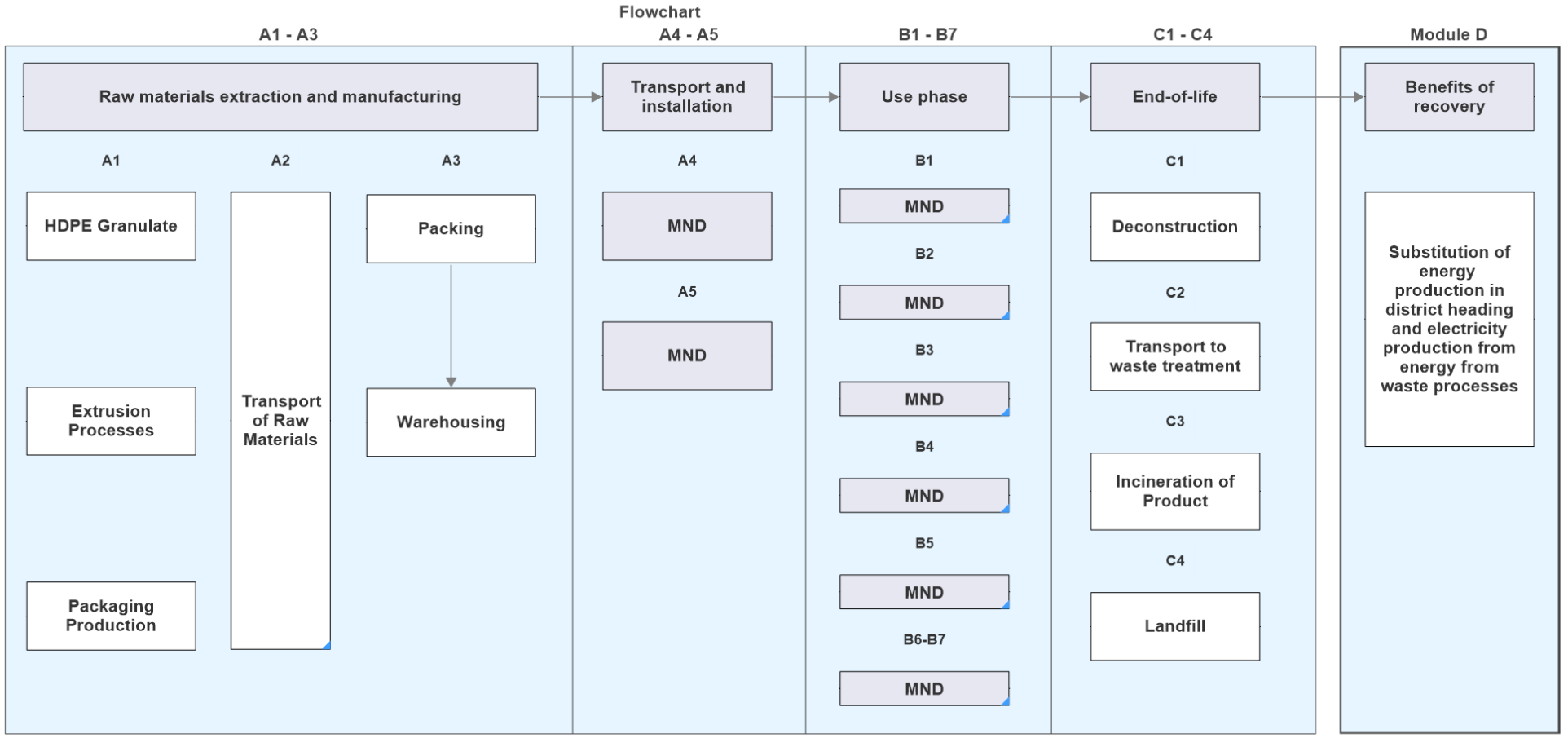
At the end of its life the product is assumed to be collected separately. Manual dismantling of pipework is anticipated therefore no energy is required. (C1).

The product is assumed to be transported no more than 50km via >32 tonne lorry for recycling / waste treatment. (C2)

An end-of-life scenario for plastic products has been assumed, based on RICS v2. 100% of the product is assumed to be incinerated with energy recovery (C3).

Module D accounts for the benefits and loads beyond the system boundary. The benefits from plastic incineration (heat and electricity generation) have been considered. The negative figure / benefit represents the avoided impact from the energy-from-waste process.

SYSTEM BOUNDARY 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.

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	Partly allocated by revenue
Packaging material	No allocation
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by revenue

PRODUCT & MANUFACTURING SITES GROUPING

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

The results in this EPD are for 1kg of HDPE Fusion Weld Waste & Drainage system. This system uses a single material, High Density Polyethylene.

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 v3.10.1/3.11 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‘.

End of life scenarios for product have been taken from RICS v2, Section 5.6.1 on End-of-Life Scenarios.

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	2.67E+00	1.29E-02	7.86E-01	3.47E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.17E-03	2.38E+00	0.00E+00	-5.15E-01
GWP – fossil	kg CO_2e	2.67E+00	1.29E-02	7.72E-01	3.45E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.17E-03	2.38E+00	0.00E+00	-5.15E-01
GWP – biogenic	kg CO_2e	1.86E-03	0.00E+00	5.12E-06	1.87E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.13E-06	-1.41E-04	0.00E+00	0.00E+00
GWP – LULUC	kg CO_2e	1.95E-03	5.03E-06	1.42E-02	1.62E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.01E-06	1.84E-05	0.00E+00	-3.52E-04
Ozone depletion pot.	kg CFC_{-11}e	1.16E-07	2.70E-10	2.61E-08	1.43E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.08E-10	8.78E-10	0.00E+00	-2.21E-08
Acidification potential	mol H^+e	8.79E-03	3.05E-05	4.15E-03	1.30E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.22E-05	5.42E-04	0.00E+00	-1.00E-03
EP-freshwater[2)]	kg Pe	6.34E-04	9.03E-07	2.41E-04	8.76E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.61E-07	7.42E-06	0.00E+00	-3.01E-05
EP-marine	kg Ne	1.69E-03	8.00E-06	1.40E-03	3.09E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.20E-06	3.09E-04	0.00E+00	-3.22E-04
EP-terrestrial	mol Ne	1.73E-02	8.65E-05	1.09E-02	2.82E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.46E-05	2.63E-03	0.00E+00	-3.61E-03
POCP ("smog")[3)]	kg NMVOCe	1.39E-02	5.30E-05	3.72E-03	1.77E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.12E-05	6.60E-04	0.00E+00	-1.26E-03
ADP-minerals & metals[4)]	kg Sbe	2.22E-05	3.70E-08	2.67E-06	2.49E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.48E-08	1.71E-07	0.00E+00	-9.49E-07
ADP-fossil resources	MJ	8.07E+01	1.94E-01	1.18E+01	9.26E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.77E-02	4.63E-01	0.00E+00	-1.10E+01
Water use[5)]	m^3e depr.	1.09E+00	9.93E-04	2.04E-01	1.29E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.98E-04	1.57E-01	0.00E+00	-6.76E-02

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	6.80E-08	1.26E-09	9.95E-08	1.69E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.04E-10	2.80E-09	0.00E+00	-6.63E-09
Ionizing radiation[6)]	kBq U235e	3.05E-01	2.34E-04	1.18E-01	4.23E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.36E-05	8.36E-04	0.00E+00	-2.75E-01
Ecotoxicity (freshwater)	CTUe	6.58E+00	2.29E-02	4.03E+00	1.06E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.15E-03	4.68E+00	0.00E+00	-4.60E-01
Human toxicity, cancer	CTUh	6.30E-10	2.15E-12	6.45E-10	1.28E-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.61E-13	2.03E-10	0.00E+00	-6.53E-11
Human tox. non-cancer	CTUh	2.27E-08	1.25E-10	1.95E-08	4.22E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.02E-11	7.12E-09	0.00E+00	-2.01E-09
SQP[7)]	-	1.14E+01	1.95E-01	6.34E+01	7.50E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.82E-02	1.31E-01	0.00E+00	-3.98E+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	3.70E+00	3.16E-03	3.45E+00	7.16E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.26E-03	1.90E-02	0.00E+00	-2.26E+00
Renew. PER as material	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
Total use of renew. PER	MJ	3.70E+00	3.16E-03	3.45E+00	7.16E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.26E-03	1.90E-02	0.00E+00	-2.26E+00
Non-re. PER as energy	MJ	3.82E+01	1.94E-01	1.18E+01	5.02E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.77E-02	-3.59E+01	0.00E+00	-1.10E+01
Non-re. PER as material	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
Total use of non-re. PER	MJ	3.82E+01	1.94E-01	1.18E+01	5.02E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.77E-02	-3.59E+01	0.00E+00	-1.10E+01
Secondary materials	kg	1.65E-02	8.39E-05	3.50E-01	3.67E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.36E-05	4.22E-04	0.00E+00	-1.42E-03
Renew. secondary fuels	MJ	1.33E-02	1.06E-06	8.56E-02	9.89E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.24E-07	1.38E-05	0.00E+00	-3.77E-06
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	2.84E-02	2.86E-05	4.31E-03	3.27E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.15E-05	2.69E-03	0.00E+00	-1.60E-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	1.08E-01	2.81E-04	4.08E-02	1.49E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.12E-04	4.10E-02	0.00E+00	-1.12E-02
Non-hazardous waste	kg	2.27E+01	5.62E-03	1.17E+00	2.38E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.25E-03	1.11E+00	0.00E+00	-1.77E-01
Radioactive waste	kg	7.78E-05	5.78E-08	2.62E-05	1.04E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.32E-08	2.13E-07	0.00E+00	-5.98E-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	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	0.00E+00	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	1.00E+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	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	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 – 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	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	2.64E+00	1.28E-02	8.42E-01	3.49E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.14E-03	2.38E+00	0.00E+00	-5.12E-01
Ozone depletion Pot.	kg $CFC_{-11}e$	9.38E-08	2.14E-10	3.10E-08	1.25E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.58E-11	7.81E-10	0.00E+00	-1.80E-08
Acidification	kg SO_2e	7.28E-03	2.42E-05	2.44E-03	9.75E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.68E-06	3.85E-04	0.00E+00	-7.53E-04
Eutrophication	kg PO_4^3e	4.21E-03	6.04E-06	1.54E-03	5.76E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.42E-06	1.37E-04	0.00E+00	-1.70E-04
POCP (“smog”)	kg C_2H_4e	9.99E-04	2.47E-06	3.61E-04	1.36E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.87E-07	2.54E-05	0.00E+00	-8.71E-05
ADP-elements	kg Sbe	2.19E-05	3.61E-08	2.56E-06	2.45E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.44E-08	1.19E-07	0.00E+00	-9.22E-07
ADP-fossil	MJ	7.54E+01	1.90E-01	1.01E+01	8.56E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.61E-02	4.50E-01	0.00E+00	-7.30E+00

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	2.67E+00	1.29E-02	7.86E-01	3.47E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.17E-03	2.38E+00	0.00E+00	-5.15E-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

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity, medium voltage, residual mix (Reference product: electricity, medium voltage)
Electricity CO2e / kWh	0.44 kg CO2e / kWh
District heating data source and quality	Not applicable
District heating CO2e / kWh	Not applicable

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
Recovery process – kg for energy recovery	1
Disposal (total) – kg for final deposition	0
Scenario assumptions e.g. transportation	Assumed transport distance to waste treatment / disposal is 50km via Transport, freight, lorry >32 metric ton, EURO6 - Europe (average laden vehicle)

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 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

D.V, as an authorized verifier for EPD Hub Limited 09.03.2026

ANNEX – LIST OF INCLUDED PRODUCTS

3m Pipe		
Code	Size	Mass (kg)
51200	32mm	0.860
51201	40mm	1.100
51202	50mm	1.380
51203	56mm	1.580
51204	63mm	1.760
51205	75mm	2.170
51206	90mm	3.060
51207	110mm	4.400
51208	125mm	5.580
51209	160mm	9.201
5m Pipe		
Code	Size	Mass (kg)
51220	200mm	19.030
51221	250mm	29.040
51222	315mm	47.800
Coupling		
Code	Size	Mass (kg)
51506	32mm	0.053
51518	40mm	0.053
51519	50mm	0.065
51520	56mm	0.078
51521	63mm	0.080
51522	75mm	0.101
51523	90mm	0.126
51524	110mm	0.161
51525	125mm	0.213
51526	160mm	0.286
51527	200mm	1.399
51528	250mm	1.770
51529	315mm	2.598
Concentric Reducers		
Code	Size	Mass (kg)
51430	40 x 32mm	0.025
51431	50 x 40mm	0.033
51432	56 x 50mm	0.038
51438	75 x 40mm	0.046
51439	75 x 50mm	0.046
51440	75 x 56mm	0.060
51442	90 x 40mm	0.061
51443	90 x 50mm	0.063
51444	90 x 56mm	0.065
51447	110 x 40mm	0.088
51448	110 x 50mm	0.093
51449	110 x 56mm	0.095
51451	110 x 75mm	0.098
51452	110 x 90mm	0.103
51458	125 x 110mm	0.135
51459	160 x 110mm	0.250
51453	200 x 110mm	0.200
51460	200 x 160mm	0.400
Eccentric Reducer		
Code	Size	Mass (kg)
51461	50 x 40mm	0.033
51462	56 x 50mm	0.038

51463	63 x 40mm	0.020
51464	63 x 50mm	0.041
51465	63 x 56mm	0.043
51467	75 x 50mm	0.050
51468	75 x 56mm	0.052
51472	90 x 56mm	0.071
51473	90 x 63mm	0.068
51474	90 x 75mm	0.070
51475	110 x 40mm	0.094
51476	110 x 50mm	0.098
51477	110 x 56mm	0.096
51478	110 x 63mm	0.100
51479	110 x 75mm	0.098
51480	110 x 90mm	0.105
51485	125 x 90mm	0.140
51487	160 x 110mm	0.225
51488	160 x 125mm	0.334
51567	200 x 110mm	0.570
51489	200 x 125mm	0.420
51568	200 x 125mm Long	0.620
51569	200 x 160mm	0.720
51570	250 x 200mm	1.942
51571	315 x 200mm	3.400
51572	315 x 250mm	3.250
45° Elbows		
Code	Size	Mass (kg)
51248	32mm	0.022
51249	40mm	0.032
51250	50mm	0.041
51252	63mm	0.058
51251	56mm	0.047
51253	75mm	0.070
51254	90mm	0.110
51255	110mm	0.175
51256	125mm	0.244
51257	160mm	0.428
51258	200mm	1.611
51259	250mm	2.674
51260	315mm	4.720
88° Elbows		
Code	Size	Mass (kg)
51226	32mm	0.027
51227	40mm	0.034
51228	50mm	0.051
51229	56mm	0.058
51230	63mm	0.074
51231	75mm	0.095
51232	90mm	0.132
51233	110mm	0.232
51234	125mm	0.355
51235	160mm	0.684
45° Single Branches		
Code	Size	Mass (kg)
51261	32mm	0.044
51262	40mm	0.069
51263	50mm	0.105
51264	56mm	0.124
51265	63mm	0.151
51266	75mm	0.190
51267	90mm	0.312

51268	110mm	0.491
51269	125mm	0.773
51270	160mm	1.479
51271	200mm	2.811
51272	250mm	5.166
51273	315mm	11.040
45° Single Branches - Reducing		
Code	Size	Mass (kg)
51274	40 x 32mm	0.061
51275	50 x 40mm	0.097
51276	56 x 50mm	0.126
51278	63 x 50mm	0.151
51279	63 x 56mm	0.146
51281	75 x 50mm	0.184
51282	75 x 56mm	0.181
51283	75 x 63mm	0.189
51284	90 x 40mm	0.261
51285	90 x 50mm	0.267
51286	90 x 56mm	0.279
51287	90 x 63mm	0.281
51289	110 x 40mm	0.441
51290	110 x 50mm	0.432
51291	110 x 56mm	0.447
51292	110 x 63mm	0.448
51293	110 x 75mm	0.471
51294	110 x 90mm	0.490
51300	125 x 90mm	0.648
51301	125 x 110mm	0.698
51306	160 x 75mm	1.320
51308	160 x 110mm	1.259
51309	160 x 125mm	1.312
51314	200 x 75mm	2.350
51316	200 x 110mm	2.350
51318	200 x 160mm	2.615
51325	250 x 110mm	4.215
51326	250 x 160mm	4.600
51327	250 x 200mm	5.100
51329	315 x 110mm	5.530
51331	315 x 160mm	8.040
51332	315 x 200mm	10.050
51333	315 x 250mm	10.180
88° Single Branches		
Code	Size	Mass (kg)
51340	32mm	0.028
51341	40mm	0.057
51342	50mm	0.081
51343	56mm	0.109
51344	63mm	0.130
51345	75mm	0.146
51346	90mm	0.132
51347	110mm	0.361
51348	125mm	0.502
51349	160mm	1.175
51351	250mm	1.500
51352	315mm	2.380
88° Single Branches - Reducing		
Code	Size	Mass (kg)
51354	40 x 32mm	0.052
51355	50 x 40mm	0.080
51356	56 x 50mm	0.107

51360	75 x 50mm	0.141
51361	75 x 56mm	0.141
51363	90 x 40mm	0.202
51364	90 x 50mm	0.205
51365	90 x 56mm	0.206
51368	110 x 40mm	0.336
51369	110 x 50mm	0.336
51370	110 x 56mm	0.340
51372	110 x 75mm	0.340
51373	110 x 90mm	0.347
51374	125 x 110mm	0.476
51375	160 x 110mm	1.112
51376	160 x 125mm	1.128
51379	160 x 75mm	1.000
51380	200 x 110mm	1.700
51381	200 x 160mm	1.850
51382	250 x 110mm	2.100
51383	250 x 160mm	2.400
51384	250 x 200mm	2.700
51385	315 x 110mm	2.800
51386	315 x 125mm	2.700
51387	315 x 160mm	2.900
51388	315 x 200mm	3.100
51389	315 x 250mm	3.300
45° Double Branches - Reducing		
Code	Size	Mass (kg)
51390	110 x 50mm	0.452
51391	110 x 110mm	0.615
90° Corner Branches		
Code	Size	Mass (kg)
51396	110mm	0.506
88° Swept Entry Branches		
Code	Size	Mass (kg)
51353	110mm	0.420
88° Bends with Long Spigot		
Code	Size	Mass (kg)
51236	40mm	0.061
51237	50mm	0.091
51238	56mm	0.117
51239	63mm	0.140
51240	75mm	0.164
51241	90mm	0.288
51242	110mm	0.449
51244	160mm	0.713
51245	200mm	1.895
51246	250mm	3.540
51247	315mm	6.200
Expansion Socket		
Code	Size	Mass (kg)
51417	32mm	0.041
51418	40mm	0.159
51419	50mm	0.193
51420	56mm	0.219
51421	63mm	0.246
51422	75mm	0.291
51423	90mm	0.336
51424	110mm	0.526
51426	160mm	1.079
51427	200mm	1.927
51428	250mm	2.100

51429	315mm	6.345
90° Access Pipes		
Code	Size	Mass (kg)
51509	63mm	0.220
51510	75mm	0.358
51511	90mm	0.518
51512	110mm	0.545
51514	160mm	1.239
51515	200mm	2.020
51516	250mm	2.800
51517	315mm	3.250
45° Access Pipes		
Code	Size	Mass (kg)
51558	110mm	0.550
2-Way Ball Double Branches		
Code	Size	Mass (kg)
51397	110mm	0.500
51398	110 x 50mm	0.550
4-Way Ball Cross Branches		
Code	Size	Mass (kg)
51399	110mm	0.700
51400	110 x 50mm	0.700
Access Caps		
Code	Size	Mass (kg)
51560	40mm	0.066
51561	50mm	0.073
51562	56mm	0.117
51563	63mm	0.131
51564	75mm	0.248
51565	90mm	0.345

51566	110mm	0.503
Long Spigot Access Caps		
Code	Size	Mass (kg)
51560LS	40mm	0.090
51561LS	50mm	0.090
51562LS	56mm	0.140
51563LS	63mm	0.150
51564LS	75mm	0.270
51565LS	90mm	0.370
51566LS	110mm	0.520
Long Spigot Access Caps		
Code	Size	Mass (kg)
51556	110 x 56mm	0.500
Ring Seal Adaptors		
Code	Size	Mass (kg)
51403	32mm	0.026
51404	40mm	0.043
51405	50mm	0.054
51406	56mm	0.064
51407	63mm	0.077
51409	75mm	0.110
51410	90mm	0.148
51411	110mm	0.221
51412	125mm	0.278
51413	160mm	0.656
Long Spigot Ring Seal Adaptors		
Code	Size	Mass (kg)
51404LS	40mm	0.060
51405LS	50mm	0.070
51406LS	56mm	0.080

51409LS	75mm	0.130
51410LS	90mm	0.170
51411LS	110mm	0.240
51412LS	125mm	0.300
51413LS	160mm	0.680
Firenze Trap		
Code	Size	Mass (kg)
51539	110mm	1.248
Waste Adaptors c/w Cap - Straight		
Code	Size	Mass (kg)
51496	40 x 46mm	0.030
51497	50 x 46mm	0.028
51498	50 x 58mm	0.030
Waste Adaptors c/w Cap - 90°		
Code	Size	Mass (kg)
51491	50 x 46mm	0.063
51492	50 x 58mm	0.067
WC Adaptors c/w Cap - 90°		
Code	Size	Mass (kg)
51530	90mm Close Coupled	0.418
51532	90mm Extended Inlet	0.490
51531	110mm Close Coupled	0.602
51533	110mm Extended	0.677