



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Terrain PVC Solvent Fittings
Polypipe Building Services



EPD HUB, HUB-4119

Published on 12.10.2025, last updated on 12.10.2025, valid until 11.10.2030

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	Polypipe Building Services
Address	College Road, New Hythe Business Park, Aylesford, Kent, ME20 7PJ, United Kingdom
Contact details	commercialenquiries@polypipe.com
Website	www.polypipe.com/commercial-building-services

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	Nigel Delo & Chris Goodwin
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products

may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Terrain PVC Spigot/Socket Bends
Additional labels	See scaling table
Product reference	107.4.135G
Place(s) of raw material origin	Europe
Place of production	Aylesford, United Kingdom
Place(s) of installation and use	United Kingdom, Republic of Ireland, Middle East
Period for data	Calendar year 2024
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3 (%)	0%
GTIN (Global Trade Item Number)	4025416366997
NOBB (Norwegian Building Product Database)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 x Terrain PVC Spigot/Socket Bend - 110mm Grey
Declared unit mass	0,327 kg
GWP-fossil, A1-A3 (kgCO₂e)	9,01E-01
GWP-total, A1-A3 (kgCO₂e)	8,07E-01
Secondary material, inputs (%)	1,37
Secondary material, outputs (%)	33,6
Total energy use, A1-A3 (kWh)	3,98
Net freshwater use, A1-A3 (m³)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Polypipe Building Services is a UK manufacturer of highly engineered above ground drainage and supply systems, servicing the commercial and industrial sectors of the UK construction Industry.

As part of the Genuit Group we aim to help create a better built environment by developing and producing sustainable solutions to the key challenges in water, climate and ventilation management.

Polypipe Building Services are specialists in providing engineered solutions, leveraging offsite fabrication to design and deliver to mechanical and public health engineers, M&E contractors as well as local authorities. Polypipe Building Services houses the industry leading brand Terrain and has been delivering solutions to commercial, multiple occupancy residential, healthcare, education and leisure projects for over 60 years.

PRODUCT DESCRIPTION

Soil pipes are designed to convey wastewater from sanitary appliances through the building and out into the sewer system. Terrain PVC-u soil systems include an extensive range of products for single and multi-occupancy residential, hotels, hospitals, schools and public sector developments. The system can connect to our cPVC waste system as well as our HDPE and Polypropylene soil pipe systems via use of ring seals, solvent weld boss horns (PVC-u) and other adaptors.

Terrain PVC soil is available in both solvent-weld and push-fit systems. Suitable for both interior and exterior use, the lightweight PVC-u system offers soil pipes with an extensive range of compatible soil fittings.

Built on a platform of innovation and technical expertise, Terrain PVC soil is a kitemarked system, which offers premium quality, quick installation, and outstanding flexibility.

Further information can be found at www.polypipe.com/commercial-building-services.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	7	Europe
Fossil materials	93	Europe
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0,02582

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 x Terrain PVC Spigot/Socket Bend - 110mm Grey
Mass per declared unit	0,327 kg
Functional unit	-
Reference service life	50 Years

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.

Raw material pellets are manufactured into a product via a Moulding machine. The product is then placed onto a cardboard carton, taped and

placed onto a wooden pallet. Electricity consumed is split between renewable energy via wind turbines (32% supported by a Renewable Energy Guarantee of Origin - REGO) and 68% by an onsite Combined Heat and Energy Plant - CHP. Production scrap is reprocessed on site and put back into the process. Head waste that cannot be reprocessed on site is sent to local waste processing (A3).

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 average transport distance to builders merchants (319km) and from builders merchants to site of installation (40km). This was calculated using a comprehensive sample of products shipped throughout 2024. This could vary depending on location of builders merchants and installation. All vehicles used are to Euro 5 standard and use HVO biodiesel. There are no losses associated with transport because the product is wrapped and secured effectively. Volume capacity utilisation is assumed to be that for packaged products.

The installation of the declared unit requires the use of a forklift truck to take the product from the vehicle on to site ready for installation. Cleaning fluid and solvent cement are used to prepare and weld during the installation process.

At Polypipe Building Services we offer a collection and recovery service for product and packaging through our distribution channel, for all plastic waste, which can then be recycled and reused at our Aylesford site. However, we realise that not everyone will use this and therefore the reality is that some of our product and packaging will become part of the general site waste.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

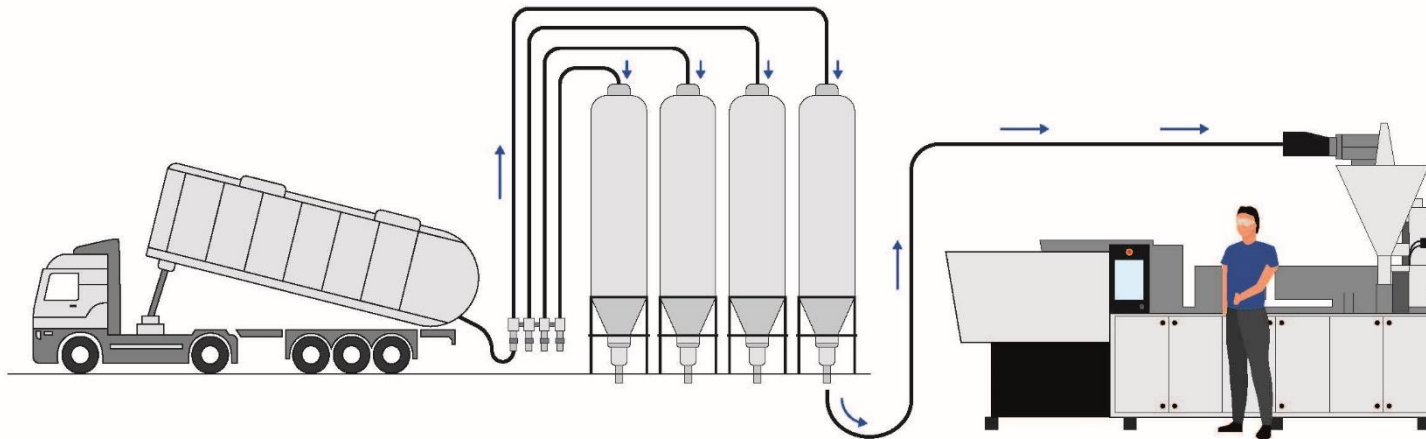
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

As part of the deconstruction process it is assumed that diesel powered equipment would be used to transport the product around the site. This would vary depending on the deconstruction methodology. C2 has been modeled using secondary data of waste processing facilities across the UK which all fall within a 50km distance. End of life scenarios have been modeled against Plastics Europe 2021 data due to a lack of verified product specific end-of-life data, the following scenario was used 34% recycled, 41% energy recovery, 25% landfill.

Due to the recycling and incineration potential of PVC, the end-of-life product is converted into recycled PVC while energy and heat is produced from its incineration. The benefits and loads of waste packaging materials in A5 are also considered in module D.

MANUFACTURING PROCESS

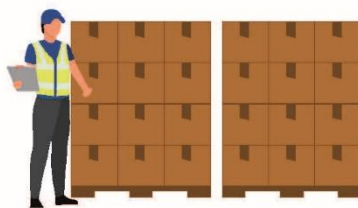


Step 1

Raw material is delivered to our factory on a tanker and deposited into our silos.

Step 2

Fittings are made by raw material being fed via the hopper where the material is passed through a screw and barrel into a moulding machine, where the material is moulded into shape and then cooled.



Step 3

Once produced, Terrain fittings are palletised and stored on site.



Step 4

The product is then loaded onto a lorry and dispatched.

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.

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	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3 (%)	0%

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

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

ENVIRONMENTAL IMPACT DATA

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

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	6,95E-01	1,76E-02	9,45E-02	8,07E-01	7,47E-03	1,93E-01	MND	MND	MND	MND	MND	MND	MND	2,02E-04	5,50E-03	2,94E-01	9,81E-03	-3,08E-01
GWP – fossil	kg CO ₂ e	6,93E-01	1,76E-02	1,90E-01	9,01E-01	1,07E-02	2,18E-02	MND	MND	MND	MND	MND	MND	MND	2,02E-04	5,50E-03	2,95E-01	9,82E-03	-2,68E-01
GWP – biogenic	kg CO ₂ e	1,16E-03	3,18E-06	-9,58E-02	-9,47E-02	-3,36E-03	1,71E-01	MND	MND	MND	MND	MND	MND	MND	2,06E-08	1,25E-06	-4,54E-04	-5,17E-06	-4,03E-02
GWP – LULUC	kg CO ₂ e	5,93E-04	7,86E-06	2,16E-04	8,17E-04	1,35E-04	1,34E-05	MND	MND	MND	MND	MND	MND	MND	2,07E-08	2,46E-06	4,47E-05	5,99E-07	-5,89E-05
Ozone depletion pot.	kg CFC-11e	2,57E-07	2,59E-10	6,23E-09	2,64E-07	1,33E-10	8,34E-10	MND	MND	MND	MND	MND	MND	MND	3,09E-12	8,12E-11	1,34E-09	2,37E-11	-9,00E-08
Acidification potential	mol H ⁺ e	2,51E-03	5,99E-05	6,35E-04	3,21E-03	6,64E-05	7,51E-05	MND	MND	MND	MND	MND	MND	MND	1,82E-06	1,88E-05	2,31E-04	6,52E-06	-1,07E-03
EP-freshwater ²⁾	kg Pe	2,31E-04	1,37E-06	4,29E-05	2,75E-04	7,35E-07	4,03E-06	MND	MND	MND	MND	MND	MND	MND	5,83E-09	4,28E-07	1,45E-05	9,66E-08	-1,49E-04
EP-marine	kg Ne	5,00E-04	1,97E-05	1,46E-04	6,66E-04	5,72E-05	3,24E-05	MND	MND	MND	MND	MND	MND	MND	8,45E-07	6,16E-06	7,86E-05	2,17E-05	-2,13E-04
EP-terrestrial	mol Ne	4,75E-03	2,14E-04	1,50E-03	6,46E-03	2,91E-04	1,89E-04	MND	MND	MND	MND	MND	MND	MND	9,25E-06	6,71E-05	6,44E-04	2,66E-05	-2,01E-03
POCP (“smog”) ³⁾	kg NMVOCe	2,83E-03	8,83E-05	8,66E-04	3,79E-03	1,75E-05	1,18E-04	MND	MND	MND	MND	MND	MND	MND	2,76E-06	2,76E-05	2,05E-04	1,16E-05	-1,10E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1,18E-05	4,90E-08	1,04E-06	1,29E-05	1,36E-08	1,73E-07	MND	MND	MND	MND	MND	MND	MND	7,24E-11	1,53E-08	3,92E-07	2,07E-09	-3,86E-06
ADP-fossil resources	MJ	1,69E+01	2,55E-01	4,32E+00	2,14E+01	2,62E-02	5,93E-01	MND	MND	MND	MND	MND	MND	MND	2,64E-03	7,98E-02	5,01E-01	2,04E-02	-6,81E+00
Water use ⁵⁾	m ³ e depr.	2,00E-01	1,26E-03	8,93E-02	2,91E-01	4,31E-03	7,79E-03	MND	MND	MND	MND	MND	MND	MND	6,60E-06	3,94E-04	3,46E-01	9,98E-05	-7,04E-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	1,92E-08	1,76E-09	6,88E-09	2,78E-08	4,48E-10	7,99E-10	MND	MND	MND	MND	MND	MND	MND	5,18E-11	5,51E-10	2,27E-09	1,48E-10	-4,03E-09
Ionizing radiation ⁶⁾	kBq 11235e	9,13E-02	2,22E-04	1,39E-02	1,05E-01	9,63E-05	1,48E-03	MND	MND	MND	MND	MND	MND	MND	1,17E-06	6,95E-05	2,21E-03	2,03E-05	-6,56E-02
Ecotoxicity (freshwater)	CTUe	3,95E+00	3,61E-02	8,85E-01	4,87E+00	9,24E-02	1,18E-01	MND	MND	MND	MND	MND	MND	MND	1,45E-04	1,13E-02	1,46E+01	3,04E-02	-1,30E+00
Human toxicity, cancer	CTUh	1,18E-09	2,90E-12	1,26E-10	1,31E-09	2,41E-12	5,80E-12	MND	MND	MND	MND	MND	MND	MND	2,08E-14	9,08E-13	9,22E-11	4,80E-13	-3,92E-10
Human tox. non-cancer	CTUh	8,33E-09	1,65E-10	1,33E-09	9,82E-09	2,42E-10	2,58E-10	MND	MND	MND	MND	MND	MND	MND	3,29E-13	5,17E-11	1,45E-09	9,46E-11	-2,82E-09
SQP ⁷⁾	-	2,32E+00	2,57E-01	8,31E+00	1,09E+01	2,68E-01	9,31E-02	MND	MND	MND	MND	MND	MND	MND	1,85E-04	8,04E-02	3,20E-01	4,75E-02	-4,97E+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	1,00E+00	3,49E-03	9,19E-01	1,92E+00	1,32E-02	-1,36E+00	MND	MND	MND	MND	MND	MND	MND	1,67E-05	1,09E-03	4,95E-02	3,19E-04	-1,16E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,40E-01	8,40E-01	0,00E+00	-8,40E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,72E-01
Total use of renew. PER	MJ	1,00E+00	3,49E-03	1,76E+00	2,76E+00	1,32E-02	-2,20E+00	MND	MND	MND	MND	MND	MND	MND	1,67E-05	1,09E-03	4,95E-02	3,19E-04	-6,92E-01
Non-re. PER as energy	MJ	1,01E+01	2,55E-01	2,04E+00	1,24E+01	2,35E-02	2,90E-01	MND	MND	MND	MND	MND	MND	MND	2,64E-03	7,98E-02	-6,97E+00	-3,19E+00	-9,12E+00
Non-re. PER as material	MJ	6,80E+00	0,00E+00	1,38E+00	8,18E+00	0,00E+00	-1,67E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,63E+00	-4,89E+00	4,72E+00
Total use of non-re. PER	MJ	1,69E+01	2,55E-01	3,42E+00	2,05E+01	2,35E-02	-1,38E+00	MND	MND	MND	MND	MND	MND	MND	2,64E-03	7,98E-02	-8,60E+00	-8,08E+00	-4,40E+00
Secondary materials	kg	4,48E-03	1,09E-04	4,25E-03	8,85E-03	1,53E-05	1,41E-04	MND	MND	MND	MND	MND	MND	MND	1,10E-06	3,40E-05	5,25E-04	7,37E-06	1,39E-01
Renew. secondary fuels	MJ	4,06E-05	1,38E-06	2,97E-02	2,97E-02	2,26E-07	1,14E-06	MND	MND	MND	MND	MND	MND	MND	2,87E-09	4,32E-07	4,63E-05	1,38E-07	-1,16E-05
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	m³	5,30E-03	3,77E-05	2,20E-03	7,54E-03	1,01E-04	9,28E-05	MND	MND	MND	MND	MND	MND	MND	1,75E-07	1,18E-05	8,03E-03	-3,03E-04	-2,23E-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	4,16E-02	4,32E-04	9,89E-03	5,20E-02	2,68E-04	1,01E-03	MND	MND	MND	MND	MND	MND	MND	2,94E-06	1,35E-04	8,16E-02	3,58E-05	-1,40E-02
Non-hazardous waste	kg	2,16E+01	7,99E-03	9,57E-01	2,25E+01	1,75E-03	1,68E-01	MND	MND	MND	MND	MND	MND	MND	4,01E-05	2,50E-03	3,51E-01	4,07E-01	-7,71E+00
Radioactive waste	kg	2,38E-05	5,44E-08	3,51E-06	2,74E-05	2,32E-08	3,76E-07	MND	MND	MND	MND	MND	MND	MND	2,87E-10	1,70E-08	5,66E-07	4,96E-09	-1,70E-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	5,00E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,10E-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	1,04E-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	4,38E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,60E-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	6,05E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,30E-01	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	6,88E-01	1,75E-02	1,89E-01	8,94E-01	1,08E-02	2,66E-02	MND	MND	MND	MND	MND	MND	MND	2,01E-04	5,47E-03	2,95E-01	9,39E-03	-2,60E-01
Ozone depletion Pot.	kg CFC-11e	2,56E-07	2,07E-10	5,04E-09	2,61E-07	1,27E-10	6,70E-10	MND	MND	MND	MND	MND	MND	MND	2,45E-12	6,48E-11	1,27E-09	1,90E-11	-8,95E-08
Acidification	kg SO ₂ e	2,08E-03	4,57E-05	5,15E-04	2,64E-03	3,82E-05	6,05E-05	MND	MND	MND	MND	MND	MND	MND	1,28E-06	1,43E-05	1,82E-04	4,84E-06	-8,87E-04
Eutrophication	kg PO ₄ ³ e	6,87E-04	1,11E-05	2,32E-03	3,02E-03	1,52E-04	2,05E-05	MND	MND	MND	MND	MND	MND	MND	2,99E-07	3,49E-06	3,61E-05	3,17E-06	-2,48E-04
POCP (“smog”)	kg C ₂ H ₄ e	2,04E-04	4,08E-06	8,75E-05	2,95E-04	1,29E-06	2,18E-05	MND	MND	MND	MND	MND	MND	MND	9,60E-08	1,28E-06	1,71E-05	1,82E-06	-7,83E-05
ADP-elements	kg Sbe	9,53E-06	4,78E-08	1,02E-06	1,06E-05	1,50E-08	1,71E-07	MND	MND	MND	MND	MND	MND	MND	7,04E-11	1,50E-08	2,69E-07	2,01E-09	-3,07E-06
ADP-fossil	MJ	1,53E+01	2,51E-01	4,08E+00	1,96E+01	2,47E-02	5,67E-01	MND	MND	MND	MND	MND	MND	MND	2,62E-03	7,87E-02	4,65E-01	2,01E-02	-5,65E+00

ENVIRONMENTAL IMPACTS – 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 ₂ e	6,94E-01	1,76E-02	1,90E-01	9,02E-01	1,08E-02	2,18E-02	MND	MND	MND	MND	MND	MND	MND	2,02E-04	5,50E-03	2,95E-01	9,82E-03	-2,68E-01

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.

ANNEX:

PRODUCT SCALING

PRODUCT GROUP	SIZE (mm)	WEIGHT (kg)	SCALING FACTOR (multiple of)	A1-A3 FOSSIL (kgCO ₂ e)	PRODUCT
Swept Bend Double Socket	82 (135°)	0.234	0.716	0.645	101.3.135
	82 (92°)	0.300	0.917	0.827	101.3.92
	110 (104°)	0.455	1.391	1.254	101.4.104
	110 (112°)	0.435	1.330	1.199	101.4.112
	110 (135°)	0.298	0.911	0.821	101.4.135
	110 (92°)	0.415	1.269	1.143	101.4.92
Access Bend	110 (92°)	0.543	1.661	1.496	103.4.92
Single Branch Spigot Outlet	110 (92°)	0.767	2.346	2.113	104.104.92
Swept Entry Equal Branch	82 (92°)	0.471	1.440	1.298	104.3.92
	110 (104°)	0.623	1.905	1.717	104.4.104
	110 (135°)	0.614	1.878	1.692	104.4.135
	110 (92°)	0.767	2.346	2.113	104.4.924
	110 (92°)	0.618	1.890	1.703	104.4.92
Single Unequal branch	160 (135°)	1.250	3.823	3.445	104.64.135
	160 (92°)	1.027	3.141	2.830	104.64.92
Double Branch	110 (135°)	1.114	3.407	3.069	106.104.135
	110 (92°)	1.052	3.217	2.899	106.104.92
	110 (92°)	1.048	3.205	2.888	106.4.92

PRODUCT GROUP	SIZE (mm)	WEIGHT (kg)	SCALING FACTOR (multiple of)	A1-A3 FOSSIL (kgCO ₂ e)	PRODUCT
Corner Double Branch	110 (92°)	0.795	2.431	2.191	106.490.92
Double Unequal branch	160 (92°)	1.096	3.352	3.020	106.64.92
Spigot/Socket Bend	82 (92°)	0.320	0.979	0.882	107.3.92
	110 (135°)	0.327	1.000	0.901	107.4.135
	110 (92°)	0.566	1.731	1.560	107.4.92
Straight Coupling	82	0.130	0.398	0.358	110.3
	110	0.216	0.661	0.595	110.4
	82	0.221	0.676	0.609	111.3
Boss Connector	82	0.069	0.211	0.190	112.3.15
	110	0.053	0.162	0.146	112.4.125
	110	0.070	0.214	0.193	112.4.15
	110	0.114	0.349	0.314	112.4.2
	160	0.103	0.315	0.284	112.6.2
Branch Boss Adaptor	58/40	0.068	0.208	0.187	117.15.90
	58/50	0.072	0.220	0.198	117.2.150
	58/50	0.090	0.275	0.248	117.2.90
	82	0.437	1.335	1.203	120.3.2
Boss Pipe Connector	110	0.308	0.942	0.849	120.4.125
	110	0.345	1.055	0.951	120.4.15
	110	0.335	1.023	0.922	120.4.15
Double Socket Boss Pipe - Four Way	110	0.400	1.223	1.102	120.4.2

PRODUCT GROUP	SIZE (mm)	WEIGHT (kg)	SCALING FACTOR (multiple of)	A1-A3 FOSSIL (kgCO ₂ e)	PRODUCT
Boss Pipe - Four Way (Socket/Spigot)	110/40	0.323	0.988	0.890	120.412.15
	110	0.468	1.431	1.290	120.412.2
Boss Pipe - Four Way	160	0.618	1.890	1.703	120.6.2
Boss Pipe - Three Way	110	0.398	1.217	1.097	121.4.15
Self Locking Boss	110	0.122	0.372	0.336	122.4.125
	110	0.234	0.716	0.645	122.4.15
Bossed Pipe Connector	110	0.345	1.055	0.951	123.4
	110	0.354	1.083	0.975	123.4
Socket Reducer	82	0.161	0.492	0.444	124.3.2
	110	0.164	0.502	0.452	124.4.2
	110	0.160	0.489	0.441	124.4.3
	160	0.363	1.110	1.000	124.6.4
Socket Plug	110	0.182	0.557	0.501	130.4
	160	0.415	1.269	1.143	130.6
Weathering Apron	82	0.150	0.459	0.413	131.3.200
	82	0.072	0.220	0.198	131.3
	110	0.145	0.443	0.400	131.4.200
	110	0.104	0.318	0.287	131.4
Pipe Bracket	82	0.046	0.141	0.127	143.3
Soil Pipe Clip	110	0.079	0.241	0.217	143.4
Adjustable Pipe Clip	110	0.047	0.144	0.130	144.4

PRODUCT GROUP	SIZE (mm)	WEIGHT (kg)	SCALING FACTOR (multiple of)	A1-A3 FOSSIL (kgCO2e)	PRODUCT
Vent Cowl	82	0.053	0.162	0.146	150.3
	110	0.067	0.205	0.185	150.4
	160	0.141	0.431	0.389	150.6
Duct Cowl	110	0.333	1.018	0.918	152.4
Bend	19 (135°)	0.012	0.037	0.033	501.75.135
	19 (91°)	0.015	0.046	0.041	501.75.91
Bent Tank Connector	19 (90°)	0.044	0.135	0.121	502.75.90
Branch	19 (91°)	0.024	0.073	0.066	504.75.91
Straight Coupling	19	0.010	0.031	0.028	510.75
Tank Connector	19	0.035	0.107	0.096	511.75
Fi To Upvc Connector	19	0.019	0.058	0.052	512.75
Socket Reducer	19	0.015	0.046	0.041	524.75
Pipe Fixing Clip	19	0.006	0.020	0.018	540.75
Single Boss Branch	110 (92°)	0.910	2.782	2.507	704P.104.92
Double Boss Branch	110 (92°)	1.183	3.618	3.260	706P.104.92
Corner Boss Branch	110 (92°)	1.508	4.610	4.154	706P.490.12
Universal Soil Manifold	110	0.806	2.465	2.221	719P.412.15
4 Way Boss	110	0.452	1.383	1.246	720P.412.2

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
12.10.2025

