

# ENVIRONMENTAL PRODUCT DECLARATION

## IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

HTP In-house drainage pipes  
Uponor Corporation



**EPD HUB, HUB-1065**

Publishing date 5 February 2024, last updated on 5 February 2024, valid until 5 February 2029.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Uponor Corporation
Address	Ilmalantori 4, 00240 Helsinki, Finland
Contact details	info@uponor.com
Website	www.uponor.com

### 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 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Dr. Shima Holder Hjort, Uponor Corporation
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

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	HTP In-house drainage pipes
Additional labels	HTP
Product reference	1051087 1051088 1051090 1051091 1051092 1051093 1051095 1051096 1051097 1051098 1051100 1051101 1051103 1051104 1051105 1051119 1051122 1051125 1051128 1051131 1053702 1053703 1053704 1053705 1053706 1054783 1067825
Place of production	Kouvolantie 365, 15550 Nastola, Finland
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of pipe
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	1,64E+00
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	1,64E+00
Secondary material, inputs (%)	0,219
Secondary material, outputs (%)	2,94
Total energy use, A1-A3 (kWh)	10,4
Total water use, A1-A3 (m <sup>3</sup> e)	1,72E-02

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Uponor is rethinking water for future generations. Our offering, including safe drinking water delivery, energy-efficient radiant heating and cooling and reliable infrastructure, enables a more sustainable living environment. We help our customers in residential and commercial construction, municipalities and utilities, as well as different industries to work faster and smarter. We employ about 3,800 professionals in 26 countries in Europe and North America. Over 100 years of expertise and trust form the basis of any successful partnership. This is the basis, on which they can build, in a literal and metaphorical sense. We create trust together with our partners: Customers, prospective customers and suppliers. We establish this with shared knowledge, quality and sustainable results.

### PRODUCT DESCRIPTION

As one of the leading suppliers of plastic pipe systems, Uponor attaches great importance to product development. HTP pipes are for in-house drainage. The pipe is a PP pipe with talc as a filler. HTP pipes are used to lead drainage and wastewater from the building to wastewater network. Pipes are available from DN32 to DN160. Colour is grey. The pipe has an in-line socket, which is a solid part of the pipe and is produced on extrusion production line. The in-line socket reduces the number of joints needed by 50%.

Further information can be found at [www.uponor.com](http://www.uponor.com).

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	100	EU
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	0,00034

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of pipe
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	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.

The production method is a pipe extrusion with in-line socketing. Socket and pipe of same material. The different stages are:

- Material conveying
- Extrusion (melting and processing of material)
- Pipe profile calibration
- Cooling

- Cutting
- Packing

The finished product is packed on a wooden U-frame with a wooden lath on top of it. The number of pipes on a frame differs depending on the pipe diameter. Pipes with diameter 800mm and bigger are not packed. The wooden frame has a nail plate on the edge to strengthen the structure as well as a plastic (NA) or steel band (FR) around to tighten the package. Differences in packaging can occur.

## MANUFACTURING PROCESS



## 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 is defined according to the PCR. The average distance of transportation from the production plant to the installation site is based on the actual sales average figures of the company in the local markets. The installation scenarios in Uponor’s infrastructure product EPDs are based on TEPPFA’s (The European Plastic Pipe and Fittings Association) industry averaged EPDs. These documents and their background reports include industry consensus estimates of the resource use, emissions and effluents of typical European installations; these parameters have been used as input for the Uponor EPD modelling. Environmental impacts from installation include standardized energy and installation tools, waste packaging materials and release of biogenic carbon dioxide from wood pallets.

Reference:

<https://www.teppfa.eu/sustainability/environmental-footprint/epd/>

### **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)**

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed negligible (C1). After ca 100 years of service life 5% of the end-of-life product is assumed to be sent to the closest treatment facilities (C2). The collected 5% from the demolition site is sent to recycling (C3), whereas the remaining 95% is left inert under the ground (C4). Due to the recycling of PE, the end-of-life product is converted into recycled PE (D).

## 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 materials	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	- %

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. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.



# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	1,60E+00	9,51E-03	3,29E-02	1,64E+00	4,14E-02	1,20E-01	MND	MND	MND	MND	MND	MND	MND	2,67E-06	2,35E-04	3,74E-02	7,25E-03	-5,81E-04
GWP – fossil	kg CO <sub>2</sub> e	1,60E+00	9,50E-03	3,41E-02	1,64E+00	4,14E-02	1,19E-01	MND	MND	MND	MND	MND	MND	MND	2,66E-06	2,35E-04	3,74E-02	7,25E-03	-5,80E-04
GWP – biogenic	kg CO <sub>2</sub> e	0,00E+00	0,00E+00	-1,23E-03	-1,23E-03	0,00E+00	1,23E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	3,84E-04	3,51E-06	2,63E-05	4,14E-04	1,53E-05	1,49E-05	MND	MND	MND	MND	MND	MND	MND	8,74E-09	8,65E-08	4,21E-06	6,15E-06	-3,81E-07
Ozone depletion pot.	kg CFC <sub>11</sub> e	2,15E-08	2,19E-09	3,19E-09	2,69E-08	9,52E-09	2,52E-08	MND	MND	MND	MND	MND	MND	MND	1,77E-13	5,40E-11	7,19E-11	1,95E-09	-3,11E-11
Acidification potential	mol H <sup>+</sup> e	5,50E-03	4,02E-05	1,62E-04	5,70E-03	1,75E-04	1,21E-03	MND	MND	MND	MND	MND	MND	MND	3,24E-08	9,93E-07	1,32E-05	5,44E-05	-4,51E-06
EP-freshwater <sup>2)</sup>	kg Pe	2,02E-05	7,78E-08	1,05E-06	2,13E-05	3,39E-07	9,33E-07	MND	MND	MND	MND	MND	MND	MND	1,89E-10	1,92E-09	5,67E-09	1,06E-07	-3,17E-08
EP-marine	kg Ne	9,29E-04	1,20E-05	3,14E-05	9,72E-04	5,21E-05	5,35E-04	MND	MND	MND	MND	MND	MND	MND	3,64E-09	2,95E-07	6,37E-06	1,89E-05	-5,25E-07
EP-terrestrial	mol Ne	1,02E-02	1,32E-04	3,28E-04	1,06E-02	5,75E-04	5,79E-03	MND	MND	MND	MND	MND	MND	MND	4,18E-08	3,26E-06	6,54E-05	2,07E-04	-6,11E-06
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	4,89E-03	4,22E-05	1,23E-04	5,05E-03	1,84E-04	1,60E-03	MND	MND	MND	MND	MND	MND	MND	1,39E-08	1,04E-06	3,58E-05	5,96E-05	-1,69E-06
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,06E-05	2,23E-08	1,18E-06	1,18E-05	9,70E-08	8,42E-08	MND	MND	MND	MND	MND	MND	MND	5,80E-10	5,50E-10	1,27E-09	2,53E-08	-4,37E-10
ADP-fossil resources	MJ	5,72E+01	1,43E-01	4,15E-01	5,77E+01	6,22E-01	1,59E+00	MND	MND	MND	MND	MND	MND	MND	2,99E-05	3,52E-03	5,78E-03	1,44E-01	-6,98E-03
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	6,56E-01	6,39E-04	1,09E-02	6,68E-01	2,78E-03	7,69E-03	MND	MND	MND	MND	MND	MND	MND	1,14E-06	1,58E-05	6,17E-04	8,86E-04	-9,74E-05

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 PO<sub>4</sub>e; 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, PEF

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	5,81E-08	1,10E-09	2,32E-09	6,15E-08	4,77E-09	3,20E-08	MND	MND	MND	MND	MND	MND	MND	2,82E-13	2,70E-11	1,74E-08	1,04E-09	-3,94E-11
Ionizing radiation <sup>6)</sup>	kBq U235e	8,21E-02	6,80E-04	1,61E-03	8,44E-02	2,96E-03	7,47E-03	MND	MND	MND	MND	MND	MND	MND	1,66E-07	1,68E-05	2,44E-05	7,69E-04	-8,49E-05
Ecotoxicity (freshwater)	CTUe	7,87E+00	1,28E-01	9,59E-01	8,96E+00	5,59E-01	1,19E+00	MND	MND	MND	MND	MND	MND	MND	2,56E-04	3,17E-03	4,84E-01	1,13E-01	-1,28E-02
Human toxicity, cancer	CTUh	3,93E-10	3,15E-12	1,31E-10	5,27E-10	1,37E-11	5,95E-11	MND	MND	MND	MND	MND	MND	MND	1,33E-14	7,79E-14	6,32E-11	4,85E-12	-1,77E-13
Human tox. non-cancer	CTUh	9,64E-09	1,27E-10	1,10E-09	1,09E-08	5,54E-10	8,08E-10	MND	MND	MND	MND	MND	MND	MND	3,48E-13	3,14E-12	3,44E-10	9,06E-11	-5,85E-12
SQP <sup>7)</sup>	-	1,28E+00	1,64E-01	6,00E-01	2,04E+00	7,16E-01	2,19E-01	MND	MND	MND	MND	MND	MND	MND	3,08E-05	4,06E-03	1,55E-02	2,81E-01	-4,26E-03

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 <sup>8)</sup>	MJ	8,07E-01	1,61E-03	5,17E+00	5,98E+00	7,00E-03	1,35E-02	MND	MND	MND	MND	MND	MND	MND	3,90E-04	3,97E-05	1,29E-04	2,92E-03	-1,29E-03
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,08E-02	1,08E-02	0,00E+00	-1,08E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	8,07E-01	1,61E-03	5,18E+00	5,99E+00	7,00E-03	2,76E-03	MND	MND	MND	MND	MND	MND	MND	3,90E-04	3,97E-05	1,29E-04	2,92E-03	-1,29E-03
Non-re. PER as energy	MJ	3,08E+01	1,43E-01	4,15E-01	3,13E+01	6,22E-01	1,59E+00	MND	MND	MND	MND	MND	MND	MND	3,00E-05	3,52E-03	5,78E-03	1,44E-01	-6,98E-03
Non-re. PER as material	MJ	2,64E+01	0,00E+00	7,10E-04	2,64E+01	0,00E+00	-7,10E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,32E+00	-2,51E+01	0,00E+00
Total use of non-re. PER	MJ	5,72E+01	1,43E-01	4,15E-01	5,77E+01	6,22E-01	1,59E+00	MND	MND	MND	MND	MND	MND	MND	3,00E-05	3,52E-03	-1,32E+00	-2,50E+01	-6,98E-03
Secondary materials	kg	2,19E-03	3,96E-05	2,06E-03	4,29E-03	1,73E-04	1,09E-03	MND	MND	MND	MND	MND	MND	MND	1,72E-07	9,78E-07	3,99E-06	5,80E-05	-5,76E-07
Renew. secondary fuels	MJ	2,18E-05	4,00E-07	3,69E-04	3,91E-04	1,74E-06	2,19E-06	MND	MND	MND	MND	MND	MND	MND	6,61E-10	9,87E-09	2,42E-08	1,55E-06	-3,65E-09
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	1,70E-02	1,85E-05	2,44E-04	1,72E-02	8,05E-05	1,62E-04	MND	MND	MND	MND	MND	MND	MND	3,14E-08	4,56E-07	1,84E-06	1,17E-04	-5,38E-06

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	3,68E-02	1,89E-04	6,03E-03	4,30E-02	8,24E-04	3,13E-03	MND	MND	MND	MND	MND	MND	MND	4,68E-07	4,67E-06	1,10E-04	2,78E-04	-4,60E-05
Non-hazardous waste	kg	8,55E-01	3,11E-03	4,53E-02	9,04E-01	1,35E-02	2,31E-02	MND	MND	MND	MND	MND	MND	MND	9,49E-06	7,68E-05	4,95E-03	4,18E-01	-1,34E-03
Radioactive waste	kg	2,44E-05	9,55E-07	9,02E-07	2,63E-05	4,16E-06	1,09E-05	MND	MND	MND	MND	MND	MND	MND	8,68E-11	2,36E-08	3,28E-08	9,06E-07	-3,12E-08

### END OF LIFE – OUTPUT FLOWS

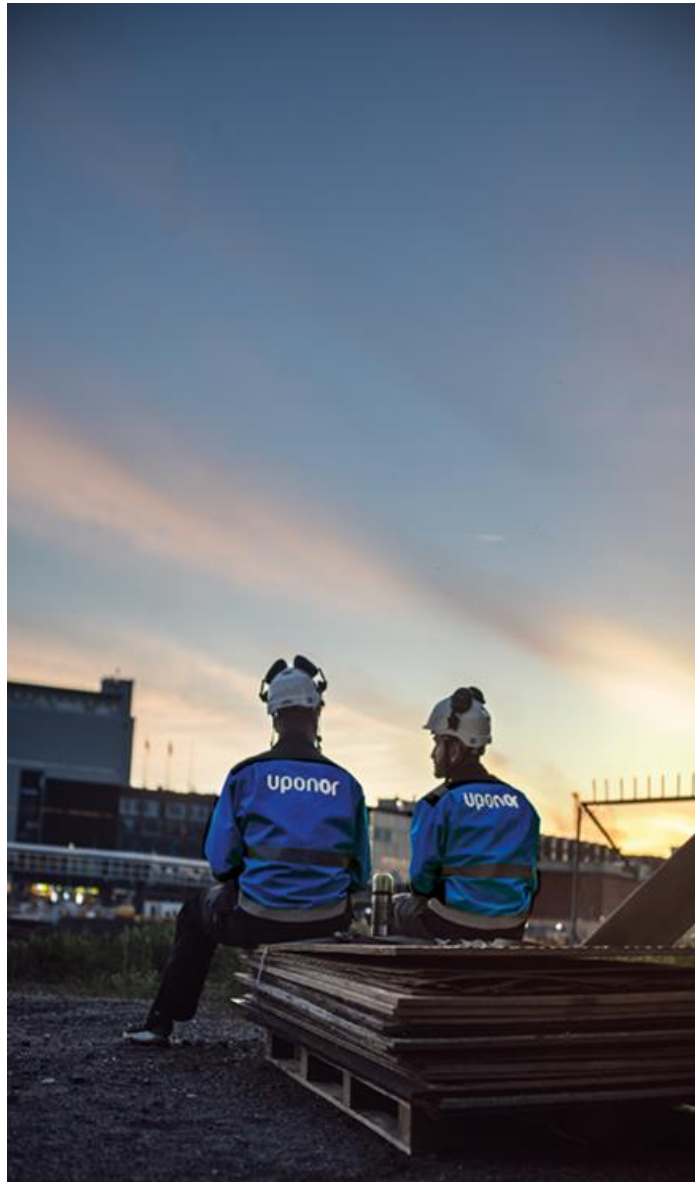
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	5,23E-04	5,23E-04	0,00E+00	3,71E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,00E-02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	5,23E-04	5,23E-04	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	7,85E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

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 <sub>2</sub> e	1,51E+00	9,41E-03	3,31E-02	1,55E+00	4,10E-02	1,17E-01	MND	MND	MND	MND	MND	MND	MND	2,59E-06	2,32E-04	3,50E-02	7,14E-03	-5,70E-04
Ozone depletion Pot.	kg CFC <sub>11</sub> e	1,88E-08	1,73E-09	2,78E-09	2,33E-08	7,54E-09	2,00E-08	MND	MND	MND	MND	MND	MND	MND	1,56E-13	4,27E-11	5,79E-11	1,55E-09	-2,54E-11
Acidification	kg SO <sub>2</sub> e	4,60E-03	3,13E-05	1,33E-04	4,77E-03	1,36E-04	8,62E-04	MND	MND	MND	MND	MND	MND	MND	2,76E-08	7,72E-07	9,36E-06	4,11E-05	-3,86E-06
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	1,02E-03	7,12E-06	5,76E-05	1,08E-03	3,10E-05	2,09E-04	MND	MND	MND	MND	MND	MND	MND	1,00E-08	1,76E-07	7,76E-04	1,24E-05	-1,12E-06
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	3,02E-04	1,22E-06	9,50E-06	3,13E-04	5,32E-06	2,02E-05	MND	MND	MND	MND	MND	MND	MND	1,45E-09	3,01E-08	1,19E-05	1,57E-06	-1,65E-07
ADP-elements	kg Sbe	1,05E-05	2,16E-08	1,17E-06	1,17E-05	9,40E-08	8,28E-08	MND	MND	MND	MND	MND	MND	MND	5,78E-10	5,33E-10	1,18E-09	2,45E-08	-4,35E-10
ADP-fossil	MJ	5,72E+01	1,43E-01	4,15E-01	5,77E+01	6,22E-01	1,59E+00	MND	MND	MND	MND	MND	MND	MND	2,99E-05	3,52E-03	5,78E-03	1,44E-01	-6,98E-03

### ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

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 <sub>2</sub> e	1,46E+00	9,41E-03	3,29E-02	1,50E+00	4,10E-02	1,18E-01	MND	MND	MND	MND	MND	MND	MND	2,58E-06	2,32E-04	3,41E-02	7,13E-03	-5,66E-04
Ozone Depletion	kg CFC <sub>11</sub> e	1,86E-08	1,73E-09	2,77E-09	2,31E-08	7,54E-09	2,00E-08	MND	MND	MND	MND	MND	MND	MND	1,54E-13	4,27E-11	5,79E-11	1,55E-09	-2,47E-11
Acidification	kg SO <sub>2</sub> e	2,41E-01	1,91E-03	7,17E-03	2,50E-01	8,34E-03	6,21E-02	MND	MND	MND	MND	MND	MND	MND	1,36E-06	4,72E-05	9,04E-04	2,67E-03	-1,95E-04
Eutrophication	kg Ne	1,60E-04	4,00E-06	9,81E-06	1,74E-04	1,74E-05	1,01E-04	MND	MND	MND	MND	MND	MND	MND	9,99E-10	9,88E-08	1,23E-06	4,52E-06	-1,01E-07
POCP ("smog")	kg O <sub>3</sub> e	2,48E-03	3,09E-05	7,63E-05	2,59E-03	1,35E-04	1,36E-03	MND	MND	MND	MND	MND	MND	MND	8,83E-09	7,63E-07	2,90E-05	4,88E-05	-1,37E-06
ADP-fossil	MJ	7,95E+00	1,95E-02	4,38E-02	8,01E+00	8,50E-02	2,22E-01	MND	MND	MND	MND	MND	MND	MND	2,50E-06	4,82E-04	7,78E-04	1,91E-02	-3,72E-04



## 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 compliance 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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited  
05.02.2024



## ANNEX 1: CONVERSION TABLE FOR PRODUCT STAGE (A1-A3) GWP – EN 15804+A2, PEF

Product Number	Product Description	Unit Product Weight (kg/m of pipe)	GWP – total, Stages A1-A3 (kg CO2e/m of pipe)	Product Length (m)	GWP – total, Stages A1-A3 (kg CO2e)
1051087	SOIL&WASTE SOCKET PIPE 75 GREY 0,25M PP	0,58	1,14E+0	0,25	2,38E-1
1051088	SOIL&WASTE SOCKET PIPE 50 GREY 0,25M PP	0,30	5,91E-1	0,25	1,23E-1
1051090	SOIL&WASTE SOCKET PIPE 110 GREY 0,5M PP	1,27	2,50E+0	0,50	1,04E+0
1051091	SOIL&WASTE SOCKET PIPE 50 GREY 0,5M PP	0,29	5,71E-1	0,50	2,38E-1
1051092	SOIL&WASTE SOCKET PIPE 75 GREY 1M PP	0,58	1,14E+0	1,00	9,51E-1
1051093	SOIL&WASTE SOCKET PIPE 110 GREY 1M PP	1,27	2,50E+0	1,00	2,08E+0
1051095	SOIL&WASTE SOCKET PIPE 50 GREY 1M PP	0,29	5,71E-1	1,00	4,76E-1
1051096	SOIL&WASTE SOCKET PIPE 50 GREY 2M PP	0,29	5,71E-1	2,00	9,51E-1
1051097	SOIL&WASTE SOCKET PIPE 75 GREY 2M PP	0,58	1,14E+0	2,00	1,90E+0
1051098	SOIL&WASTE SOCKET PIPE 110 GREY 2M PP	1,27	2,50E+0	2,00	4,17E+0
1051100	SOIL&WASTE SOCKET PIPE 50 GREY 3M PP	0,29	5,71E-1	3,00	1,43E+0
1051101	SOIL&WASTE SOCKET PIPE 110 GREY 4M PP	1,27	2,50E+0	4,00	8,33E+0
1051103	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 3M PP	1,27	2,50E+0	3,00	6,25E+0
1051104	SOIL&WASTE PLAIN ENDED PIPE 75 GREY 4M PP	0,58	1,14E+0	4,00	3,80E+0
1051105	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 4M PP	1,27	2,50E+0	4,00	8,33E+0
1051119	SOIL&WASTE PLAIN ENDED PIPE 50 GREY 3M PP	0,30	5,91E-1	3,00	1,48E+0
1051122	SOIL&WASTE SOCKET PIPE 32 WHITE 0,25M PP	0,16	3,15E-1	0,25	6,56E-2
1051125	SOIL&WASTE SOCKET PIPE 32 WHITE 0,5M PP	0,16	3,15E-1	0,50	1,31E-1
1051128	SOIL&WASTE SOCKET PIPE 32 WHITE 1M PP	0,16	3,15E-1	1,00	2,62E-1
1051131	SOIL&WASTE SOCKET PIPE 32 WHITE 2M	0,16	3,15E-1	2,00	5,25E-1
1053702	SOIL&WASTE SOCKET PIPE 110 GREY 0,25M PP	1,75	3,45E+0	0,25	7,18E-1
1053703	SOIL&WASTE SOCKET PIPE 75 GREY 3M PP	0,28	5,52E-1	3,00	1,38E+0
1053704	SOIL&WASTE SOCKET PIPE 110 GREY 3M PP	1,27	2,50E+0	3,00	6,25E+0
1053705	SOIL&WASTE SOCKET PIPE 110 GREY 6M SN8 PP	1,27	2,50E+0	6,00	1,25E+1
1053706	SOIL&WASTE PLAIN ENDED PIPE 32 WHITE 3M PP	0,16	3,15E-1	3,00	7,87E-1
1054783	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 6M PP	1,27	2,50E+0	6,00	1,25E+1
1067825	SOIL&WASTE PLAIN ENDED PIPE 32 WHITE 1M PP	0,16	3,15E-1	1,00	1,23E-1

## ANNEX 2: CONVERSION TABLE FOR PRODUCT STAGE (A1-A3) GWP – EN 15804+A1, CML/ISO 21930

Product Number	Product Description	Unit Product Weight (kg/m of pipe)	GWP – total, Stages A1-A3 (kg CO2e/m of pipe)	Product Length (m)	GWP – total, Stages A1-A3 (kg CO2e)
1051087	SOIL&WASTE SOCKET PIPE 75 GREY 0,25M PP	0,58	1,14E+0	0,25	2,25E-1
1051088	SOIL&WASTE SOCKET PIPE 50 GREY 0,25M PP	0,30	5,91E-1	0,25	1,16E-1
1051090	SOIL&WASTE SOCKET PIPE 110 GREY 0,5M PP	1,27	2,50E+0	0,50	9,84E-1
1051091	SOIL&WASTE SOCKET PIPE 50 GREY 0,5M PP	0,29	5,71E-1	0,50	2,25E-1
1051092	SOIL&WASTE SOCKET PIPE 75 GREY 1M PP	0,58	1,14E+0	1,00	8,99E-1
1051093	SOIL&WASTE SOCKET PIPE 110 GREY 1M PP	1,27	2,50E+0	1,00	1,97E+0
1051095	SOIL&WASTE SOCKET PIPE 50 GREY 1M PP	0,29	5,71E-1	1,00	4,50E-1
1051096	SOIL&WASTE SOCKET PIPE 50 GREY 2M PP	0,29	5,71E-1	2,00	8,99E-1
1051097	SOIL&WASTE SOCKET PIPE 75 GREY 2M PP	0,58	1,14E+0	2,00	1,80E+0
1051098	SOIL&WASTE SOCKET PIPE 110 GREY 2M PP	1,27	2,50E+0	2,00	3,94E+0
1051100	SOIL&WASTE SOCKET PIPE 50 GREY 3M PP	0,29	5,71E-1	3,00	1,35E+0
1051101	SOIL&WASTE SOCKET PIPE 110 GREY 4M PP	1,27	2,50E+0	4,00	7,87E+0
1051103	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 3M PP	1,27	2,50E+0	3,00	5,91E+0
1051104	SOIL&WASTE PLAIN ENDED PIPE 75 GREY 4M PP	0,58	1,14E+0	4,00	3,60E+0
1051105	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 4M PP	1,27	2,50E+0	4,00	7,87E+0
1051119	SOIL&WASTE PLAIN ENDED PIPE 50 GREY 3M PP	0,30	5,91E-1	3,00	1,40E+0
1051122	SOIL&WASTE SOCKET PIPE 32 WHITE 0,25M PP	0,16	3,15E-1	0,25	6,20E-2
1051125	SOIL&WASTE SOCKET PIPE 32 WHITE 0,5M PP	0,16	3,15E-1	0,50	1,24E-1
1051128	SOIL&WASTE SOCKET PIPE 32 WHITE 1M PP	0,16	3,15E-1	1,00	2,48E-1
1051131	SOIL&WASTE SOCKET PIPE 32 WHITE 2M	0,16	3,15E-1	2,00	4,96E-1
1053702	SOIL&WASTE SOCKET PIPE 110 GREY 0,25M PP	1,75	3,45E+0	0,25	6,79E-1
1053703	SOIL&WASTE SOCKET PIPE 75 GREY 3M PP	0,28	5,52E-1	3,00	1,30E+0
1053704	SOIL&WASTE SOCKET PIPE 110 GREY 3M PP	1,27	2,50E+0	3,00	5,91E+0
1053705	SOIL&WASTE SOCKET PIPE 110 GREY 6M SN8 PP	1,27	2,50E+0	6,00	1,18E+1
1053706	SOIL&WASTE PLAIN ENDED PIPE 32 WHITE 3M PP	0,16	3,15E-1	3,00	7,44E-1
1054783	SOIL&WASTE PLAIN ENDED PIPE 110 GREY 6M PP	1,27	2,50E+0	6,00	1,18E+1
1067825	SOIL&WASTE PLAIN ENDED PIPE 32 WHITE 1M PP	0,16	3,15E-1	1,00	1,16E-1