

ENVIRONMENTAL PRODUCT DECLARATION

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

Uponor Ecoflex Thermo Twin
Uponor Corporation



EPD HUB, HUB-1145

Publishing date 21 February 2024, last updated on 21 February 2024, valid until 21 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	Uponor Ecoflex Thermo Twin
Additional labels	
Product reference	1018136 1018135 1018137 1018138 1018134 1088276
Place of production	Industriestraße 56, 97437 Hassfurt; Nordanövågen 2, 73061, Virsbo, Sweden; Kouvolaantie 365, 15550 Nastola, Finland
Period for data	2021
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	4,67E+00
GWP-total, A1-A3 (kgCO ₂ e)	4,67E+00
Secondary material, inputs (%)	0,476
Secondary material, outputs (%)	2,93
Total energy use, A1-A3 (kWh)	20,2
Total water use, A1-A3 (m ³ e)	2,15E-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

Uponor Ecoflex Thermo Single and Twin pre-insulated pipes for district heating, installed into ground of residential areas for heating and cooling application networks. The product consists of a PEX-a media pipe(s) separated by a profile PE insulation, covered by several layers of PEX foam insulation and a corrugated HDPE casing/jacket pipe.

Further information can be found at 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	0
Biogenic carbon content in packaging, kg C	0

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	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 the pre-insulation of medium polyethylene pipe(s) by wrapping several PEX foam layers around the medium pipe(s) and extrude a corrugated Polyethylene casing/jacket pipe around the last foam layer.

The different stages are:

- supporting the media pipe(s) in the machine
- wrapping foam layer(s)
- melting foam layers together
- extruding corrugated jacket pipe
- cooling jacket pipe
- coiling the pipe
- cutting the pipe
- binding the pipe coil
- packaging and labelling the pipe coil

The finished pipe coil is packed with several layers of stretch foil.

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 affluents 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 ¹⁾	kg CO ₂ e	3,58E+00	1,55E-01	9,45E-01	4,68E+00	7,06E-01	1,40E-01	MND	3,16E-06	2,35E-04	3,74E-02	6,18E-03	0,00E+00						
GWP – fossil	kg CO ₂ e	3,57E+00	1,55E-01	9,43E-01	4,67E+00	7,05E-01	1,42E-01	MND	3,15E-06	2,35E-04	3,74E-02	6,15E-03	0,00E+00						
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	1,53E-03	1,53E-03	0,00E+00	-1,53E-03	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
GWP – LULUC	kg CO ₂ e	1,60E-03	5,73E-05	6,39E-04	2,30E-03	2,54E-04	3,96E-05	MND	1,03E-08	8,65E-08	4,21E-06	2,28E-05	0,00E+00						
Ozone depletion pot.	kg CFC ₁₁ e	7,78E-08	3,57E-08	1,92E-06	2,03E-06	1,62E-07	2,65E-08	MND	2,09E-13	5,40E-11	7,19E-11	1,54E-09	0,00E+00						
Acidification potential	mol H ⁺ e	1,05E-02	6,58E-04	3,23E-03	1,44E-02	2,94E-03	1,27E-03	MND	3,83E-08	9,93E-07	1,32E-05	4,54E-05	0,00E+00						
EP-freshwater ²⁾	kg Pe	2,19E-06	1,27E-06	2,80E-05	3,14E-05	5,96E-06	1,54E-06	MND	2,24E-10	1,92E-09	5,67E-09	8,94E-08	0,00E+00						
EP-marine	kg Ne	2,22E-03	1,95E-04	6,79E-04	3,09E-03	8,72E-04	5,51E-04	MND	4,31E-09	2,95E-07	6,37E-06	1,59E-05	0,00E+00						
EP-terrestrial	mol Ne	2,33E-02	2,16E-03	6,44E-03	3,19E-02	9,63E-03	5,95E-03	MND	4,94E-08	3,26E-06	6,54E-05	1,74E-04	0,00E+00						
POCP (“smog”) ³⁾	kg NMVOCe	9,64E-03	6,90E-04	3,18E-03	1,35E-02	3,05E-03	1,65E-03	MND	1,65E-08	1,04E-06	3,58E-05	4,99E-05	0,00E+00						
ADP-minerals & metals ⁴⁾	kg Sbe	2,34E-05	3,64E-07	7,13E-06	3,09E-05	1,08E-05	2,24E-07	MND	6,85E-10	5,50E-10	1,27E-09	2,15E-08	0,00E+00						
ADP-fossil resources	MJ	7,75E+01	2,33E+00	1,76E+01	9,74E+01	1,07E+01	1,76E+00	MND	3,54E-05	3,52E-03	5,78E-03	1,16E-01	0,00E+00						
Water use ⁵⁾	m ³ e depr.	1,59E+00	1,04E-02	3,88E-01	1,99E+00	4,21E-02	1,28E-02	MND	1,34E-06	1,58E-05	6,17E-04	6,74E-04	0,00E+00						

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, 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	1,03E-07	1,79E-08	3,31E-08	1,54E-07	6,58E-08	3,32E-08	MND	3,34E-13	2,70E-11	1,74E-08	8,88E-10	0,00E+00						
Ionizing radiation ⁶⁾	kBq U235e	1,26E-01	1,11E-02	5,13E-02	1,89E-01	4,85E-02	9,59E-03	MND	1,96E-07	1,68E-05	2,44E-05	5,58E-04	0,00E+00						
Ecotoxicity (freshwater)	CTUe	3,65E+01	2,10E+00	1,17E+01	5,02E+01	8,88E+00	1,52E+00	MND	3,02E-04	3,17E-03	4,84E-01	1,02E-01	0,00E+00						
Human toxicity, cancer	CTUh	1,02E-09	5,15E-11	4,90E-10	1,56E-09	2,36E-10	9,69E-11	MND	1,57E-14	7,79E-14	6,32E-11	4,01E-12	0,00E+00						
Human tox. non-cancer	CTUh	3,13E-08	2,08E-09	8,76E-09	4,21E-08	9,55E-09	1,11E-09	MND	4,12E-13	3,14E-12	3,44E-10	7,81E-11	0,00E+00						
SQP ⁷⁾	-	2,30E+00	2,69E+00	2,03E+00	7,02E+00	1,21E+01	3,73E-01	MND	3,65E-05	4,06E-03	1,55E-02	2,17E-01	0,00E+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	8,61E+00	2,63E-02	6,35E+00	1,50E+01	1,39E-01	3,17E-02	MND	3,90E-04	3,97E-05	1,29E-04	2,19E-03	0,00E+00						
Renew. PER as material	MJ	1,78E-02	0,00E+00	0,00E+00	1,78E-02	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	-8,92E-04	-1,70E-02	0,00E+00						
Total use of renew. PER	MJ	8,63E+00	2,63E-02	6,35E+00	1,50E+01	1,39E-01	3,17E-02	MND	3,90E-04	3,97E-05	-7,63E-04	-1,48E-02	0,00E+00						
Non-re. PER as energy	MJ	4,39E+01	2,33E+00	1,17E+01	5,79E+01	1,07E+01	1,76E+00	MND	3,54E-05	3,52E-03	5,78E-03	1,16E-01	0,00E+00						
Non-re. PER as material	MJ	6,09E+01	0,00E+00	5,99E+00	6,69E+01	0,00E+00	-5,99E+00	MND	0,00E+00	0,00E+00	-3,04E+00	-5,78E+01	0,00E+00						
Total use of non-re. PER	MJ	1,05E+02	2,33E+00	1,76E+01	1,25E+02	1,07E+01	-4,23E+00	MND	3,54E-05	3,52E-03	-3,04E+00	-5,77E+01	0,00E+00						
Secondary materials	kg	4,76E-03	6,48E-04	3,90E-03	9,31E-03	1,25E-03	1,25E-01	MND	2,04E-07	9,78E-07	3,99E-06	4,77E-05	-8,24E-18						
Renew. secondary fuels	MJ	0,00E+00	6,53E-06	7,58E-04	7,65E-04	1,26E-05	8,05E-06	MND	7,81E-10	9,87E-09	2,42E-08	1,20E-06	0,00E+00						
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m ³	1,14E-02	3,02E-04	9,73E-03	2,14E-02	1,76E-03	2,79E-04	MND	3,71E-08	4,56E-07	1,84E-06	8,53E-05	0,00E+00						

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	5,52E-02	3,09E-03	4,13E-02	9,96E-02	1,24E-02	5,18E-03	MND	5,54E-07	4,67E-06	1,10E-04	2,36E-04	0,00E+00						
Non-hazardous waste	kg	2,14E+00	5,08E-02	8,45E-01	3,03E+00	6,34E-01	5,30E-02	MND	1,12E-05	7,68E-05	4,95E-03	3,04E-01	0,00E+00						
Radioactive waste	kg	8,11E-04	1,56E-05	2,01E-05	8,46E-04	7,25E-05	1,18E-05	MND	1,03E-10	2,36E-08	3,28E-08	7,24E-07	0,00E+00						

END OF LIFE – OUTPUT FLOWS

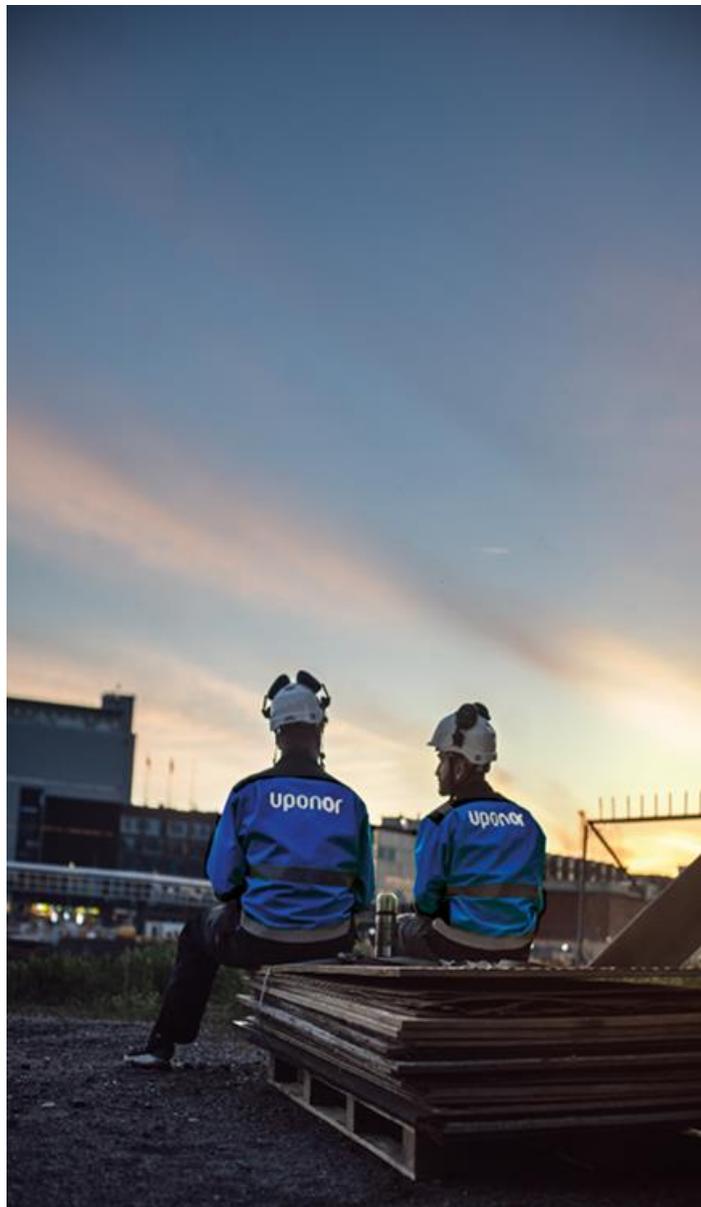
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Materials for recycling	kg	3,31E-02	0,00E+00	2,84E-02	6,16E-02	0,00E+00	8,60E-02	MND	0,00E+00	0,00E+00	5,00E-02	0,00E+00	0,00E+00						
Materials for energy rec	kg	5,60E-02	0,00E+00	2,84E-02	8,45E-02	0,00E+00	0,00E+00	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	0,00E+00	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 ₂ e	3,20E+00	1,54E-01	9,14E-01	4,26E+00	6,99E-01	1,40E-01	MND	3,07E-06	2,32E-04	3,50E-02	6,09E-03	0,00E+00						
Ozone depletion Pot.	kg CFC ₁₁ e	7,25E-08	2,83E-08	1,29E-06	1,39E-06	1,29E-07	2,11E-08	MND	1,85E-13	4,27E-11	5,79E-11	1,22E-09	0,00E+00						
Acidification	kg SO ₂ e	8,37E-03	5,11E-04	2,68E-03	1,16E-02	1,81E-03	9,11E-04	MND	3,26E-08	7,72E-07	9,36E-06	3,43E-05	0,00E+00						
Eutrophication	kg PO ₄ ³ e	1,98E-03	1,16E-04	9,73E-04	3,07E-03	3,96E-04	2,75E-04	MND	1,19E-08	1,76E-07	7,76E-04	1,01E-05	0,00E+00						
POCP ("smog")	kg C ₂ H ₄ e	8,41E-04	1,99E-05	1,89E-04	1,05E-03	9,19E-05	2,36E-05	MND	1,71E-09	3,01E-08	1,19E-05	1,32E-06	0,00E+00						
ADP-elements	kg Sbe	2,36E-05	3,53E-07	7,08E-06	3,10E-05	1,08E-05	2,21E-07	MND	6,83E-10	5,33E-10	1,18E-09	2,09E-08	0,00E+00						
ADP-fossil	MJ	1,04E+02	2,33E+00	1,76E+01	1,24E+02	1,07E+01	1,76E+00	MND	3,54E-05	3,52E-03	5,78E-03	1,16E-01	0,00E+00						

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 ₂ e	2,30E+00	1,54E-01	8,99E-01	3,35E+00	6,98E-01	1,40E-01	MND	3,05E-06	2,32E-04	3,41E-02	6,07E-03	0,00E+00						
Ozone Depletion	kg CFC ₁₁ e	9,17E-08	2,83E-08	1,28E-06	1,40E-06	1,53E-07	2,11E-08	MND	1,81E-13	4,27E-11	5,79E-11	1,22E-09	0,00E+00						
Acidification	kg SO ₂ e	6,98E-03	3,13E-02	1,45E-01	1,83E-01	6,17E-02	6,51E-02	MND	1,60E-06	4,72E-05	9,04E-04	2,23E-03	0,00E+00						
Eutrophication	kg Ne	5,90E-04	6,54E-05	3,24E-04	9,80E-04	3,31E-04	1,08E-04	MND	1,18E-09	9,88E-08	1,23E-06	3,72E-06	0,00E+00						
POCP ("smog")	kg O ₃ e	9,68E-02	5,05E-04	1,60E-03	9,89E-02	3,24E-02	1,40E-03	MND	1,04E-08	7,63E-07	2,90E-05	4,09E-05	0,00E+00						
ADP-fossil	MJ	1,11E+01	3,19E-01	2,22E+00	1,36E+01	1,50E+00	2,37E-01	MND	2,96E-06	4,82E-04	7,78E-04	1,54E-02	0,00E+00						



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
21.02.2024



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)
1018134	UPONOR ECOFLEX THERMO TWIN 2X25X2,3/175MM	1,92	8,99E+0	200,00	1,80E+3
1018135	UPONOR ECOFLEX THERMO TWIN 2X32X2,9/175MM	1,99	9,31E+0	200,00	1,86E+3
1018136	UPONOR ECOFLEX THERMO TWIN 2X40X3,7/175MM	2,33	1,09E+1	200,00	2,18E+3
1018137	UPONOR ECOFLEX THERMO TWIN 2X50X4,6/200MM	3,59	1,68E+1	200,00	3,36E+3
1018138	UPONOR ECOFLEX THERMO TWIN 2X63X5,8/200MM	4,55	2,13E+1	200,00	4,26E+3

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)
1018134	UPONOR ECOFLEX THERMO TWIN 2X25X2,3/175MM	1,92	8,18E+0	200,00	1,64E+3
1018135	UPONOR ECOFLEX THERMO TWIN 2X32X2,9/175MM	1,99	8,48E+0	200,00	1,70E+3
1018136	UPONOR ECOFLEX THERMO TWIN 2X40X3,7/175MM	2,33	9,93E+0	200,00	1,99E+3
1018137	UPONOR ECOFLEX THERMO TWIN 2X50X4,6/200MM	3,59	1,53E+1	200,00	3,06E+3
1018138	UPONOR ECOFLEX THERMO TWIN 2X63X5,8/200MM	4,55	1,94E+1	200,00	3,88E+3