ENVIRONMENTAL PRODUCT DECLARATION

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

ICT Cable Protection Pipes (DW and Tripla Cable Protection Pipes)
Uponor Corporation

EPD HUB, HUB-0470
Publishing date 19 May 2023, last updated on 19 May 2023, valid until 19 May 2028

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Uponor Corporation
Address	Äyritie 20
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, Uponor Corporation
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
EPD verifier	H.N, 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	ICT Cable Protection Pipes (DW and Tripla Cable Protection Pipes)
Product reference	1051595 1051596 1055199 1055200 1055201 1055202 1055203 1055204 1055205 1055206 1055208 1055251 1055252 1055253 1055257 1055258 1061124 1051577 1051578 1051579 1051580 1051581 1051584 1051586 1051587 1055211 1055213 1087615 1139962
Place of production	Uponor Infra AB, Industrivägen 11, 513 32 Fristad, Sweden
Period for data	2021
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of pipe
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	8,04E-1
GWP-total, A1-A3 (kgCO2e)	8,63E-1
Secondary material, inputs (%)	0,446
Secondary material, outputs (%)	5,00
Total energy use, A1-A3 (kWh)	7,62
Total water use, A1-A3 (m3e)	5,84E-3

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

City or country, wind farm or industry, the little red cottage or the high-rise in the big city all have one thing in common – there are cables going there. In or above ground. Electricity, telecom, or fibre. We ensure that the cables are protected. That they don't get damaged or cut off. Uponor Infra develops and manufactures solutions for the protection of low and high voltage cables and all kinds of data transmission. This EPD covers two products within the Uponor Cable Protection System pipes:

1) DW cable protection pipes have a smooth inside and corrugated outside. The smooth inside makes it easy to pull cables even when changing direction. The flexible structure of the pipe is strong and easy to work with. During installation, the pipe follows the movements and subsidence of the ground, which also minimizes the use of fittings.

- 6M straight lengths or 50M coils
- Pipe classification: SRN
- Pipes are available in dimensions: OD 50, 75, 110 and 160mm
- Colors: Yellow, green, red and orange.

2) Tripla's unique pipe design enables use both in normal installations and where extra high ring stiffness is required. The pipe can be connected without special transition details with both smooth and corrugated pipes. Welded sleeve and sealing ring ensure a 100% tight system.

- 6M straight lengths
- Pipe classification: SRN and SN8 ring stiffness
- Pipe dimensions: OD 110, 160
- Colours: Yellow, green, red and orange

The cable protection pipes are marked SRN, SRS or SRE according to EBR KJ41:21 Kabelförläggning max 145 kV. Tripla cable protection pipes are in addition meeting the tightness requirements of EN 13476 with test method EN 1277:2004 regarding vacuum and internal pressure.

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	-
Biogenic carbon content in packaging, kg C	0,00344

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of pipe
Mass per declared unit	1 kg

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.

–Material conveying
–Extrusion (melting, material processing and coating)
–Cooling
-Coiling (If the pipe is coiled)
–Cutting
–Socketing (if the pipe is with socket)

Packaging of the finished product consists of a wooden U-frame with a wooden lath on top of it. The amount of pipes on a frame differs depending on the pipe diameter. The wooden frame has a nail plate on the edge to strengthen the structure as well as a plastic band around to tighten the package.

The cable protection pipes are manufactured in compliance with the requirements in the following standard: EN 61386-1:2018 Conduit systems for cable management – Part 1: General requirements (IEC 61386-1:2008) EN 61386-24:2018 Conduit systems for cable management – Part 24: Particular requirements – Conduit systems buried underground (IEC 61386-24:2004) and test methods have been applied that are described in SS 424 14 37 utgåva 6.

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.

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:

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g., mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

As it is impossible to collect all energy consumption data separately for each product produced in the plant, data is allocated. Allocation is based on annual production rate and made with high accuracy and precision. The values for 1 kg of the product, which is used within this study are calculated by considering the total product weight per annual production. In the factory, several kinds of pipes are produced; since the production processes of these products are similar, the annual production percentage is taken into consideration for allocation. According to the ratio of the annual production of the declared product to the total annual production at the factory, the annual total fuel consumption, consumed water and the generated waste per the declared product are allocated. Subsequently, the product output fixed to 1 kg and the corresponding amount of product is used in the calculations. Besides, since the formulation of the product is certain, raw materials in the product do not need to be allocated considering the total annual production.

This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs.

Allocation used in environmental data sources is aligned with the above.

AVERAGES AND VARIABILITY

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 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_2e	2,05E0	1,4E-2	2,92E-2	2,09E0	6,4E-2	1,2E-1	MND	MND	MND	MND	MND	MND	MND	2,58E-6	2,27E-4	1,84E-2	7,32E-3	-7,93E-2
GWP – fossil	kg CO_2e	2,03E0	1,4E-2	4E-2	2,09E0	6,45E-2	1,18E-1	MND	MND	MND	MND	MND	MND	MND	2,58E-6	2,27E-4	1,85E-2	7,27E-3	-9,22E-2
GWP – biogenic	kg CO_2e	1,07E-2	9,17E-6	-1,08E-2	-1,62E-4	4,69E-5	1,79E-3	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	1,29E-2
GWP – LULUC	kg CO_2e	6,32E-4	4,29E-6	1,97E-5	6,56E-4	1,94E-5	1,32E-5	MND	MND	MND	MND	MND	MND	MND	7,42E-9	6,84E-8	1,07E-5	3,56E-6	3,45E-6
Ozone depletion pot.	kg $CFC_{-11}e$	5,18E-8	3,25E-9	2,11E-9	5,71E-8	1,52E-8	2,48E-8	MND	MND	MND	MND	MND	MND	MND	1,85E-13	5,34E-11	1,34E-9	1,98E-9	-6,72E-10
Acidification potential	mol H^+e	7,31E-3	5,92E-5	2,55E-4	7,63E-3	2,71E-4	1,21E-3	MND	MND	MND	MND	MND	MND	MND	3,29E-8	9,54E-7	5,29E-5	5,52E-5	-3,63E-4
EP-freshwater[2)]	kg Pe	3,53E-5	1,22E-7	1,63E-6	3,71E-5	5,25E-7	6,92E-7	MND	MND	MND	MND	MND	MND	MND	2,81E-10	1,85E-9	3,07E-7	1,19E-7	-2,17E-6
EP-marine	kg Ne	1,25E-3	1,77E-5	1,58E-4	1,43E-3	8,17E-5	5,27E-4	MND	MND	MND	MND	MND	MND	MND	3,72E-9	2,88E-7	1,47E-5	1,9E-5	-4,81E-5
EP-terrestrial	mol Ne	1,4E-2	1,96E-4	9,93E-4	1,51E-2	9,02E-4	5,78E-3	MND	MND	MND	MND	MND	MND	MND	4,34E-8	3,18E-6	1,6E-4	2,1E-4	-5,93E-4
POCP ("smog")[3)]	kg NMVOCe	6,81E-3	6,28E-5	1,64E-4	7,04E-3	2,9E-4	1,59E-3	MND	MND	MND	MND	MND	MND	MND	1,42E-8	1,02E-6	5,18E-5	6,01E-5	-2,97E-4
ADP-minerals & metals[4)]	kg Sbe	1,82E-5	2,38E-7	1,5E-6	1,99E-5	1,1E-6	2,04E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	3,88E-9	2,26E-7	1,13E-7	-6,83E-7
ADP-fossil resources	MJ	7,19E1	2,16E-1	2,35E-1	7,23E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-3,36E0
Water use[5)]	m^3e depr.	1,43E0	8,53E-4	6,69E-3	1,44E0	3,73E-3	1,16E-2	MND	MND	MND	MND	MND	MND	MND	1,32E-6	1,31E-5	3,89E-3	4,8E-3	-4,2E-2

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	6,05E-8	1,26E-9	2,41E-9	6,42E-8	5,84E-9	3,17E-8	MND	MND	MND	MND	MND	MND	MND	2,44E-13	2,06E-11	9,14E-10	9,68E-10	-1,41E-9
Ionizing radiation[6)]	kBq U235e	4,82E-2	9,32E-4	7,89E-4	5E-2	4,39E-3	6,87E-3	MND	MND	MND	MND	MND	MND	MND	7,87E-8	1,54E-5	5,47E-4	6,04E-4	-1,52E-3
Ecotoxicity (freshwater)	CTUe	1,12E1	1,71E-1	7,16E-1	1,21E1	7,67E-1	1,03E0	MND	MND	MND	MND	MND	MND	MND	2,7E-4	2,7E-3	1,91E-1	1,1E-1	-7,75E-1
Human toxicity, cancer	CTUh	5,34E-10	4,24E-12	6,06E-11	5,98E-10	1,96E-11	5,35E-11	MND	MND	MND	MND	MND	MND	MND	1,09E-14	6,91E-14	1,95E-11	4,23E-12	3,96E-12
Human tox. non-cancer	CTUh	1,25E-8	1,97E-10	1,3E-9	1,4E-8	9,09E-10	1,03E-9	MND	MND	MND	MND	MND	MND	MND	3,4E-13	3,2E-12	2,72E-10	1,01E-10	-3,48E-10
SQP[7)]	-	4,79E-1	3,25E-1	3,77E-1	1,18E0	1,52E0	4,95E-2	MND	MND	MND	MND	MND	MND	MND	2,19E-5	5,34E-3	1,1E-1	4,1E-1	7,45E-2

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	1,21E0	2,56E-3	2,42E0	3,64E0	1,26E-2	1,29E-2	MND	MND	MND	MND	MND	MND	MND	3,89E-4	4,45E-5	8,94E-3	2,85E-3	-4,29E-2
Renew. PER as material	MJ	0E0	0E0	1,22E-1	1,22E-1	0E0	-1,22E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	1,21E0	2,56E-3	2,55E0	3,76E0	1,26E-2	-1,09E-1	MND	MND	MND	MND	MND	MND	MND	3,89E-4	4,45E-5	8,94E-3	2,85E-3	-4,29E-2
Non-re. PER as energy	MJ	2,34E1	2,16E-1	2,35E-1	2,38E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-1,03E0
Non-re. PER as material	MJ	4,85E1	0E0	0E0	4,85E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-2,42E0	-4,61E1	4,34E-3
Total use of non-re. PER	MJ	7,19E1	2,16E-1	2,35E-1	7,23E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	-2,24E0	-4,59E1	-1,02E0
Secondary materials	kg	4,46E-3	0E0	0E0	4,46E-3	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	4,98E-2
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	5,19E-3	4,51E-5	6,05E-4	5,84E-3	2,09E-4	6,05E-4	MND	MND	MND	MND	MND	MND	MND	3,61E-8	7,36E-7	5,44E-5	1,25E-4	-1,87E-4

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	4,52E-2	2,32E-4	2,68E-3	4,81E-2	9,75E-4	2,54E-3	MND	MND	MND	MND	MND	MND	MND	3,76E-7	3,43E-6	0E0	2,52E-4	-2,76E-3
Non-hazardous waste	kg	1,57E0	2,35E-2	6,72E-2	1,66E0	1,08E-1	2,83E-2	MND	MND	MND	MND	MND	MND	MND	1,91E-5	3,8E-4	0E0	4,22E-1	-6,93E-2
Radioactive waste	kg	4E-5	1,47E-6	8,68E-7	4,23E-5	6,89E-6	1,11E-5	MND	MND	MND	MND	MND	MND	MND	8,02E-11	2,43E-8	0E0	9,13E-7	-9,61E-7

END OF LIFE – OUTPUT FLOWS

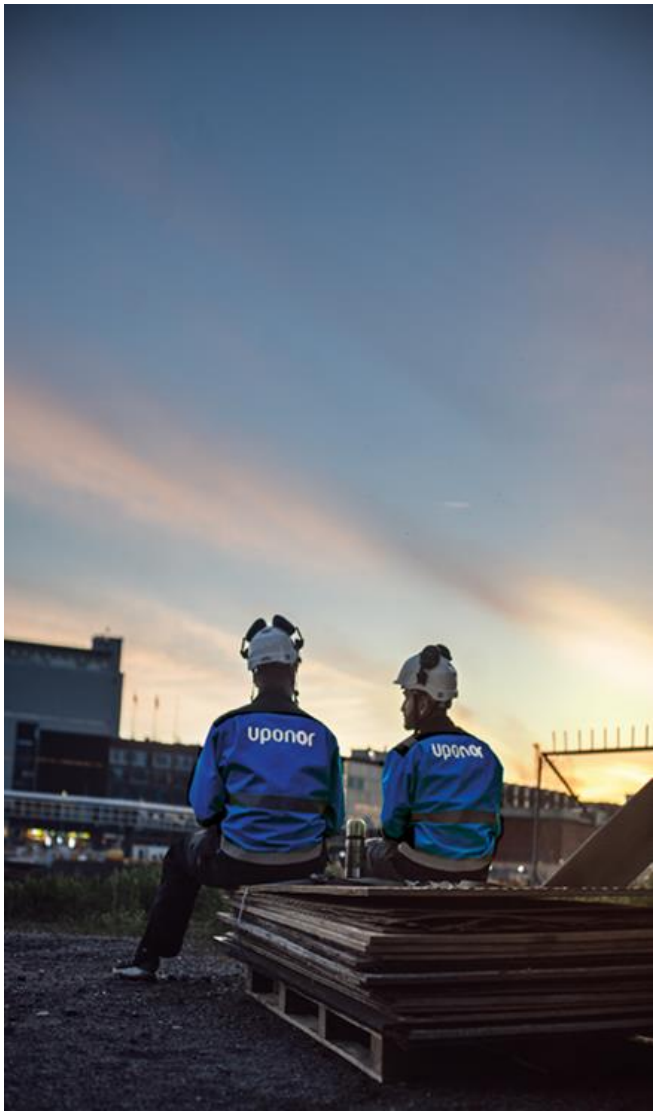
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,5E-2	1,5E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5E-2	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	4,71E-3	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	8,86E-2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

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_2e	1,88E0	1,39E-2	4,04E-2	1,93E0	6,4E-2	1,17E-1	MND	MND	MND	MND	MND	MND	MND	2,5E-6	2,25E-4	1,81E-2	7,16E-3	-8,32E-2
Ozone depletion Pot.	kg $CFC_{-11}e$	5,11E-8	2,58E-9	1,98E-9	5,57E-8	1,21E-8	1,96E-8	MND	MND	MND	MND	MND	MND	MND	1,7E-13	4,25E-11	1,12E-9	1,58E-9	-9,38E-10
Acidification	kg SO_2e	6,15E-3	3,43E-5	1,69E-4	6,36E-3	1,31E-4	1,85E-4	MND	MND	MND	MND	MND	MND	MND	2,85E-8	4,62E-7	3,33E-5	3,04E-4	-3,21E-4
Eutrophication	kg PO_4^3e	1,49E-3	7,36E-6	1,11E-4	1,61E-3	2,65E-5	3,84E-5	MND	MND	MND	MND	MND	MND	MND	1,24E-8	9,34E-8	3,84E-5	8,21E-6	5,46E-6
POCP (“smog”)	kg C_2H_4e	6,24E-4	1,8E-6	6,03E-6	6,32E-4	8,32E-6	1,93E-5	MND	MND	MND	MND	MND	MND	MND	1,53E-9	2,93E-8	3,15E-6	1,57E-6	-2,75E-5
ADP-elements	kg Sbe	1,82E-5	2,38E-7	1,5E-6	1,99E-5	1,1E-6	2,04E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	3,88E-9	2,26E-7	1,13E-7	-6,83E-7
ADP-fossil	MJ	7,19E1	2,16E-1	2,35E-1	7,23E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-3,36E0

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_2e	1,9E0	1,39E-2	4,05E-2	1,95E0	6,39E-2	1,16E-1	MND	MND	MND	MND	MND	MND	MND	2,49E-6	2,25E-4	1,81E-2	7,14E-3	-8,4E-2
Ozone Depletion	kg $CFC_{-11}e$	6,36E-8	3,44E-9	2,32E-9	6,94E-8	1,61E-8	2,62E-8	MND	MND	MND	MND	MND	MND	MND	2,11E-13	5,66E-11	1,47E-9	2,1E-9	-9,96E-10
Acidification	kg SO_2e	6,05E-3	5,17E-5	2,02E-4	6,31E-3	2,36E-4	1,1E-3	MND	MND	MND	MND	MND	MND	MND	2,65E-8	8,32E-7	4,68E-5	4,9E-5	-3,08E-4
Eutrophication	kg Ne	4,72E-4	7,23E-6	1,37E-4	6,17E-4	3,32E-5	9,79E-5	MND	MND	MND	MND	MND	MND	MND	3,01E-9	1,17E-7	6,39E-6	5,66E-6	-1,79E-5
POCP (“smog”)	kg O_3e	8,08E-2	1,12E-3	3,12E-3	8,5E-2	5,18E-3	3,35E-2	MND	MND	MND	MND	MND	MND	MND	2,16E-7	1,82E-5	9,05E-4	1,21E-3	-3,43E-3
ADP-fossil	MJ	1,03E1	3,08E-2	2,48E-2	1,03E1	1,44E-1	2,34E-1	MND	MND	MND	MND	MND	MND	MND	2,45E-6	5,06E-4	2,24E-2	2,01E-2	-4,73E-1



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
19.05.2023

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)
1051577	TRIPLA PIPE 110 SN8 YELLOW 6M PEHD	0,8	1,74E+0	6,0	1,04E+1
1051579	TRIPLA PIPE 110 SN8 GREEN 6M PEHD	0,8	1,74E+0	6,0	1,04E+1
1051580	TRIPLA PIPE 110 SN8 RED 6M PEHD	0,8	1,74E+0	6,0	1,04E+1
1051584	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD	0,7	1,44E+0	6,0	8,65E+0
1051586	TRIPLA PIPE 160 SN8 YELLOW 6M PEHD	1,6	3,34E+0	6,0	2,01E+1
1051595	CABLE DUCTING DW PIPE 50 RED 50M PE	0,2	4,47E-1	50,0	2,24E+1
1051596	CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,2	4,47E-1	50,0	2,24E+1
1055199	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,3	5,57E-1	6,0	3,34E+0
1055200	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,3	5,57E-1	6,0	3,34E+0
1055201	CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,7	1,36E+0	6,0	8,15E+0
1055202	CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,5	3,03E+0	6,0	1,82E+1
1055203	CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,3	5,57E-1	6,0	3,34E+0
1055204	CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,6	1,25E+0	50,0	6,27E+1
1055205	CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,7	1,36E+0	6,0	8,15E+0
1055208	CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,3	5,57E-1	6,0	3,34E+0
1055251	CABLE DUCTING DW PIPE 50 BLACK 25M PE	0,2	3,80E-1	25,0	9,51E+0
1055252	CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,2	4,47E-1	50,0	2,24E+1
1055253	CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,2	4,47E-1	50,0	2,24E+1
1055257	CABLE DUCTING DW PIPE 110 RED 50M PE	0,6	1,30E+0	50,0	6,48E+1
1055258	CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,6	1,19E+0	50,0	5,96E+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)
1051577	TRIPLA PIPE 110 SN8 YELLOW 6M PEHD	0,8	1,60E+0	6,0	9,62E+0
1051579	TRIPLA PIPE 110 SN8 GREEN 6M PEHD	0,8	1,60E+0	6,0	9,62E+0
1051580	TRIPLA PIPE 110 SN8 RED 6M PEHD	0,8	1,60E+0	6,0	9,62E+0
1051584	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD	0,7	1,33E+0	6,0	7,99E+0
1051586	TRIPLA PIPE 160 SN8 YELLOW 6M PEHD	1,6	3,09E+0	6,0	1,85E+1
1051595	CABLE DUCTING DW PIPE 50 RED 50M PE	0,2	4,13E-1	50,0	2,07E+1
1051596	CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,2	4,13E-1	50,0	2,07E+1
1055199	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,3	5,15E-1	6,0	3,09E+0
1055200	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,3	5,15E-1	6,0	3,09E+0
1055201	CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,7	1,25E+0	6,0	7,53E+0
1055202	CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,5	2,80E+0	6,0	1,68E+1
1055203	CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,3	5,15E-1	6,0	3,09E+0
1055204	CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,6	1,16E+0	50,0	5,79E+1
1055205	CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,7	1,25E+0	6,0	7,53E+0
1055208	CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,3	5,15E-1	6,0	3,09E+0
1055251	CABLE DUCTING DW PIPE 50 BLACK 25M PE	0,2	3,51E-1	25,0	8,78E+0
1055252	CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,2	4,13E-1	50,0	2,07E+1
1055253	CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,2	4,13E-1	50,0	2,07E+1
1055257	CABLE DUCTING DW PIPE 110 RED 50M PE	0,6	1,20E+0	50,0	5,98E+1
1055258	CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,6	1,10E+0	50,0	5,50E+1