iBVD

Dokument Id
5569113813-00009
Version
3
Skapad
2023-10-23
Publicerad
2026-02-18

Uppgiftslämnaren reserverar sig för eventuella fel i produktinformationen eller felaktigt registrerade uppgifter och förbehåller sig rätten att korrigera och/eller komplettera produktinformation utan föregående avisering

1 GRUNDDATA

Varubeskrivning

Uponor Kabelskyddsrör i PE används sedan många år till kabelskydd. PE kännetecknas av stor flexibilitet, tålighet och korrosionsbeständighet. Den stora flexibiliteten gör att rören är flexibla för markens sättningar

Övriga upplysningar

Klassificeringar

ETIM ›	-EC003023 - Rördel med 1 anslutning -EC003024 - Rördel med 2 anslutningar -EC000253 - Kabelskyddsrör (markförlagd) -EC001496 - Markeringsband -EC002874 - Jordinspektionsbrunn -EC012276 - Skyddslock för avloppsrör -EC003028 - Infiltrationsbrunn -EC010339 - Plaströr strukturvägg
BK04 ›	-18399 - Elinstallationsmaterial övrigt
BSAB ›	-SBN.112 - Kabelskydd av plaströr
UNSPSC ›	-40141720 -40141901 -40141914 -24141510 -31201500 -39121718 -11162108

Leverantörsuppgifter

Företagsnamn
Uponor Infra

Organisationsnummer
5569113813

Adress
Industrivägen 11

Hemsida
www.uponor.se/infra

Miljökontaktperson

Namn
Maria Nygren

Telefon
033-172525

E-post
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2 HÅLLBARHETSARBETE

Företagets certifiering

- ■ **ISO 9001**
- ■ **ISO 14001**
- ■ ISO 50001

Policys och riktlinjer

3 INNEHÅLLSDEKLARATION

Kemisk produkt	Nej
Innehåller produkten elektronik	Nej
Omfattas varan av RoHs-direktivet	Nej
Varans vikt	

Vara / Delkomponenter

Koncentrationen har beräknats på hela varan

Ingående material /komponenter	Vikt-% i komponent	CAS-nr (alt legering)	EG-nr (alt legering)	Vikt % i produkt	Kommentar
Polyetylen, PE, hög densitet (HDPE), låg densitet (LDPE), linjär lågdensitetspolyeten		9002-88-4		99 - 99,5%	
Polyeten, PE, Färgad		9002-88-4		0,5 - 1%	Innehåller inga ämnen klassificerade som farliga som borde beaktas enligt EU förordning

Del av materialinnehållet som är deklarerat 100%

Särskilt farliga ämnen

Varan innehåller INTE några ämnen med särskilt farliga egenskaper (Substances of very high concern, SVHC-ämnen) som finns med på kandidatförteckningen i en koncentration som överstiger 0,1 vikts-%

Utgåva av kandidatförteckningen som har använts
2026-02-04

Nanomaterial

Innehåller produkten tillsatt nanomaterial, som är medvetet tillsatta för att uppnå en viss funktion?: Nej

Tillsatt högflourerade ämnen (PFAS)

Innehåller produkten tillsatt högflourerade ämnen (PFAS), som är aktivt tillsatta för att uppnå en specifik funktion?: Nej

Begränsningslistan

Innehåller varan/produkten, eller någon av dess delkomponenter, ämnen som gör att produkten inte uppfyller villkoren i Begränsningslistan (Reach Bilaga XVII)?: Nej

POPs-förordningen

Innehåller varan (eller någon av dess delkomponenter) ämnen som finns i POPs-förordningen?: Nej

Övrigt

Ämnen är redovisade ned till 0,1% viktprocent enligt iBVDs redovisningskrav. Eventuell avvikelse från redovisningskraven redovisas nedan

4 RÅVAROR

Återvunnet material

Innehåller varan återvunnet material: Nej

Träråvara

Träråvara ingår i varan: Nej

5 MILJÖPÅVERKAN

Finns en miljövarudeklaration framtagen enligt EN15804 eller ISO14025 för varan

Ja

Finns annan miljövarudeklaration

Nej

6 DISTRIBUTION

Beskrivning av emballagehantering för distribution av varan

Förpackningsmaterial av färdiga produkter består av:

-Träramar (buntvirke)
-Plastband,
-Plastband,
-Wellpapp
-Europapallar. Europapallar återanvänds.

Distribution till slutkund sker främst med vägtransport (99-100 %), lastbil med lägst miljöklass 3
En del av godset är packat på EUR-pallar – dvs ett retursystem
En del av godset lasts som bulk, dvs utan emballage. Gäller stora rör och anläggningar
En del av godset är packat på engångsemballage, men optimerat utifrån kundens möjligheter till återvinning

7 BYGGSKEDET

Ställer varan särskilda krav vid lagring?	Nej
Ställer varan särskilda krav på omgivande byggvaror?	Nej

8 BRUKSSKEDET

Finns skötselanvisningar/skötselråd?	Nej
Finns en energimärkning enligt energimärkningsdirektivet (2017/1369/EU) för varan?	Ej relevant

9 RIVNING

Kräver varan särskilda åtgärder för skydd av hälsa och miljö vid rivning/demontering?	Nej

10 AVFALLSHANTERING

Omfattas den levererade varan av förordningen (2014:1075) om producentansvar för elektriska och elektroniska produkter när den blir avfall?	Nej
Är återanvändning möjlig för hela eller delar av varan?	Ja
Rör och rördelar kan enkelt demonteras och återanvändas	
Är materialåtervinning möjlig för hela eller delar av varan?	Ja
Materialåtervinning är möjligt för hela varan. Plaströr och rördelar i bygg- och rivningsavfall ska separeras från övrigt avfall och skickas till materialåtervinning.	
Är energiåtervinning möjlig för hela eller delar av varan?	Ja
Brännbart material. Vi rekommenderar materialåtervinning enligt ovan.	
Har leverantören restriktioner och rekommendationer för återanvändning, material- eller energiåtervinning eller deponering?	Ja
Vi rekommenderar materialåtervinning enligt ovan.	
När den levererade varan blir avfall, klassas den då som farligt avfall?	Nej
Avfallskod (EWC) för den levererade varan	170203

11 ARTIKELIDENTITETER

RSK-nummer	Eget Artikel-nr	GTIN
235 39 74	1050074	6414901319347
235 39 75	1050075	6414901319439
237 37 69	1050998	6414903507285
237 80 24	1050162	6414901619348
237 80 40	1050163	6414901619430
239 01 21	1143425	06414900502924
239 01 22	1143426	06414900502931
239 01 23	1143887	06414900326780
239 01 24	1143888	06414900326797
239 01 25	1143889	06414900326803
239 01 14	1143008	06414900443999
239 01 13	1143007	06414900443982
239 01 12	1140487	06414900439398
239 01 11	1140486	06414900439381
239 01 10	1140485	06414900439374
241 61 24	1054057	6414901655216
241 61 25	1054058	6414901655278
241 61 26	1054059	6414901655346
241 61 28	1054061	6414901656213
241 61 29	1054062	6414901656275
241 61 30	1054063	6414901656343
239 01 09	1140484	06414900439367
239 01 08	1140483	06414900439350
239 01 07	1140482	06414900439343
239 01 06	1140481	06414900439336
239 01 05	1140480	06414900439329
239 01 04	1140479	06414900439312
239 01 03	1140478	06414900439305
241 72 54	1058024	6414908402127
241 72 84	1055091	6414906206062
239 01 02	1140477	06414900439299
239 01 01	1140476	06414900439282
239 01 00	1140475	06414900439275
239 00 99	1140474	06414900439268
239 00 98	1140473	06414900439251
239 00 97	1140471	06414900439244
222 33 19	1086965	6414908518507
222 33 18	1086964	6414908518491
222 33 17	1086963	6414908518484
241 45 29	1053699	6414903801321
241 77 80	1055201	6414906220310
241 77 81	1055205	6414906221324

241 77 82	1055202	6414906220426
241 77 87	1055240	6414906269234
241 77 89	1051593	6414906269357
241 77 90	1055244	6414906269432
241 77 96	1050139	6414903801239
241 88 88	1055204	6414906221317
241 88 89	1055253	6414906272210
241 88 90	1055258	6414906272357
241 88 91	1051596	6414906272203
241 88 92	1055252	6414906272180
241 88 93	1003508	6414901603866
241 89 46	1051579	6414906224035
241 89 47	1051577	6414906224011
241 89 48	1051586	6414906224516
241 89 49	1051584	6414906224103
241 89 54	1054020	6414901603811
241 90 27	1055208	6414906223229
241 90 35	1054048	6414901615258
241 90 36	1050158	6414901617016
241 90 37	1050159	6414901617023
241 90 38	1050141	6414901603231
241 90 86	1050144	6414901603873
241 54 92	1055236	6414906265229
241 54 93	1055237	6414906265281
241 54 94	1055238	6414906265342
241 54 95	1055239	6414906265427
241 54 96	1055242	6414906269302
241 54 97	1055245	6414906269456
241 95 34	1055120	6414906207489
241 95 36	1058591	6414908404640
241 95 37	1058586	6414908404657
241 95 38	1058587	6414908404282
243 43 75	1063247	6414908406118
243 43 76	1063248	6414908406125
243 43 77	1063249	6414908406132
243 43 78	1063250	6414908406149
243 43 79	1063251	6414908406156
243 43 80	1063253	6414908406170
243 43 81	1063254	6414908406187
243 43 82	1063255	6414908406194
243 43 83	1063256	6414908406200
243 47 70	1083699	6414908441539
241 55 02	1055230	6414906252106
241 66 92	1055232	6414906262167
241 66 93	1055233	6414906262211
241 66 94	1055234	6414906262273

241 66 95	1055261	6414906291341
241 66 99	1054065	6414901657227
241 67 00	1054066	6414901657289
241 67 01	1054067	6414901657357
241 77 44	1055199	6414906220228
241 77 50	1055214	6414906230227
241 77 52	1055216	6414906230319
241 77 54	1055217	6414906230326
241 77 73	1052598	6414901679373
241 77 74	1055946	6414901679601
241 77 75	1055928	6414901685374
241 77 76	1055930	6414901685411
241 77 78	1055200	6414906220235
241 77 79	1055203	6414906221232
241 92 82	1055944	6414909547223
241 92 83	1055945	6414909549456
241 92 87	1052597	6414909516823
241 92 90	1055926	6414909515017
241 92 91	1055927	6414909515116
241 92 93	1055929	6414909515338

12 Bilagor

Produktdatablad

Prestandadeklaration

Säkerhetsblad

RoHs-intyg

Miljövarudeklaration

Skötselanvisning

Övriga bifogade dokument

-EPD_HUB-0469_2024-11-13.pdf
-EPD_HUB-0470_2024-11-13.pdf
-EPD_HUB-0612_2024-11-13.pdf
-Reach-Declaration-of-Compliance-Uponor-Nov-21 (2).pdf

ENVIRONMENTAL PRODUCT DECLARATION

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

ICT Cable Protection Pipes (Smooth PE Protection Pipes)
Uponor Corporation

EPD HUB, HUB-0469
Publishing date 19 May 2023, last updated on 10 July 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	Haiha Nguyen, 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 (Smooth PE Protection Pipes)
Product reference	1055236 1055237 1055238 1055239 1055232 1055233 1055234 1055261 1055230 1062662 1062665 1064342 1064352 1092776 1085766 1085767 1084559 1105840 1105841 1096929 1117840 1126485 1132709 1140238
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)	1,42E-1
GWP-total, A1-A3 (kgCO2e)	1,44E-1
Secondary material, inputs (%)	98,58
Secondary material, outputs (%)	5,0
Total energy use, A1-A3 (kWh)	1,15
Total water use, A1-A3 (m3e)	6,95E-4

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. Smooth PE cable protection pipes are optimal for cable ducting above and below ground. Pipes suit the needs for rough and extra rough conditions, for underground and above ground installation. Conical socket on 6M lengths enable a fast and secure installation.

- 6M straight lengths or 50M coils
- Pipe classification: SRS or SRE
- Pipes are available in dimensions: OD 32, 50, 75, 90, 110, 160 mm
- Colors: Yellow and black

The pipes are marked SRN, SRS or SRE according to EBR KJ41:21 Kabelförläggning max 145 kV.

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	0,00048

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 Smooth PE 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	1,39E-2	9,39E-2	3,58E-2	1,44E-1	3,99E-2	1,2E-1	MND	MND	MND	MND	MND	MND	MND	2,58E-6	2,27E-4	1,84E-2	7,32E-3	3,53E-2
GWP – fossil	kg CO_2e	1,3E-2	9,38E-2	3,47E-2	1,42E-1	4,03E-2	1,18E-1	MND	MND	MND	MND	MND	MND	MND	2,58E-6	2,27E-4	1,85E-2	7,27E-3	3,06E-2
GWP – biogenic	kg CO_2e	8,91E-4	6,81E-5	1,13E-3	2,09E-3	2,92E-5	1,8E-3	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	4,7E-3
GWP – LULUC	kg CO_2e	1,17E-5	2,82E-5	1,29E-5	5,28E-5	1,21E-5	1,3E-5	MND	MND	MND	MND	MND	MND	MND	7,42E-9	6,84E-8	1,07E-5	3,56E-6	3,43E-5
Ozone depletion pot.	kg $CFC_{-11}e$	9,18E-10	2,21E-8	1,34E-9	2,43E-8	9,46E-9	2,48E-8	MND	MND	MND	MND	MND	MND	MND	1,85E-13	5,34E-11	1,34E-9	1,98E-9	2,36E-9
Acidification potential	mol H^+e	5,22E-5	3,94E-4	1,51E-4	5,97E-4	1,69E-4	1,2E-3	MND	MND	MND	MND	MND	MND	MND	3,29E-8	9,54E-7	5,29E-5	5,52E-5	1,13E-4
EP-freshwater[2)]	kg Pe	5,18E-7	7,63E-7	9,88E-7	2,27E-6	3,28E-7	6,87E-7	MND	MND	MND	MND	MND	MND	MND	2,81E-10	1,85E-9	3,07E-7	1,19E-7	1,45E-6
EP-marine	kg Ne	1,14E-5	1,19E-4	7,37E-5	2,04E-4	5,1E-5	5,27E-4	MND	MND	MND	MND	MND	MND	MND	3,72E-9	2,88E-7	1,47E-5	1,9E-5	2,52E-5
EP-terrestrial	mol Ne	1,22E-4	1,31E-3	5,3E-4	1,96E-3	5,63E-4	5,78E-3	MND	MND	MND	MND	MND	MND	MND	4,34E-8	3,18E-6	1,6E-4	2,1E-4	2,65E-4
POCP ("smog")[3)]	kg NMVOCe	4,47E-5	4,22E-4	1E-4	5,67E-4	1,81E-4	1,59E-3	MND	MND	MND	MND	MND	MND	MND	1,42E-8	1,02E-6	5,18E-5	6,01E-5	7,92E-5
ADP-minerals & metals[4)]	kg Sbe	1,61E-7	1,6E-6	1,25E-6	3,01E-6	6,87E-7	2,04E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	3,88E-9	2,26E-7	1,13E-7	4,13E-7
ADP-fossil resources	MJ	2,62E-1	1,46E0	1,66E-1	1,89E0	6,26E-1	1,61E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	3,99E-1
Water use[5)]	m^3e depr.	5,93E-3	5,43E-3	6,35E-3	1,77E-2	2,33E-3	1,16E-2	MND	MND	MND	MND	MND	MND	MND	1,32E-6	1,31E-5	3,89E-3	4,8E-3	7E-3

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	5,48E-10	8,49E-9	1,46E-9	1,05E-8	3,64E-9	3,17E-8	MND	MND	MND	MND	MND	MND	MND	2,44E-13	2,06E-11	9,14E-10	9,68E-10	1,33E-9
Ionizing radiation[6)]	kBq U235e	8,35E-4	6,38E-3	4,89E-4	7,7E-3	2,74E-3	6,86E-3	MND	MND	MND	MND	MND	MND	MND	7,87E-8	1,54E-5	5,47E-4	6,04E-4	2,3E-3
Ecotoxicity (freshwater)	CTUe	1,84E-1	1,12E0	5,85E-1	1,88E0	4,79E-1	1,03E0	MND	MND	MND	MND	MND	MND	MND	2,7E-4	2,7E-3	1,91E-1	1,1E-1	5,63E-1
Human toxicity, cancer	CTUh	8,4E-12	2,85E-11	4,91E-11	8,61E-11	1,22E-11	5,34E-11	MND	MND	MND	MND	MND	MND	MND	1,09E-14	6,91E-14	1,95E-11	4,23E-12	2,72E-11
Human tox. non-cancer	CTUh	1,59E-10	1,32E-9	8,88E-10	2,37E-9	5,67E-10	1,03E-9	MND	MND	MND	MND	MND	MND	MND	3,4E-13	3,2E-12	2,72E-10	1,01E-10	4,57E-10
SQP[7)]	-	4,74E-2	2,2E0	3,24E-1	2,57E0	9,45E-1	4,88E-2	MND	MND	MND	MND	MND	MND	MND	2,19E-5	5,34E-3	1,1E-1	4,1E-1	1,26E-1

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	1,67E-2	1,84E-2	2,3E0	2,34E0	7,88E-3	1,28E-2	MND	MND	MND	MND	MND	MND	MND	3,89E-4	4,45E-5	8,94E-3	2,85E-3	4,61E-2
Renew. PER as material	MJ	0E0	0E0	1,88E-2	1,88E-2	0E0	-1,88E-2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	1,67E-2	1,84E-2	2,32E0	2,36E0	7,88E-3	-6,03E-3	MND	MND	MND	MND	MND	MND	MND	3,89E-4	4,45E-5	8,94E-3	2,85E-3	4,61E-2
Non-re. PER as energy	MJ	1,69E-1	1,46E0	1,66E-1	1,79E0	6,26E-1	1,61E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	3,99E-1
Non-re. PER as material	MJ	9,32E-2	0E0	0E0	9,32E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-4,66E-3	-8,85E-2	0E0
Total use of non-re. PER	MJ	2,62E-1	1,46E0	1,66E-1	1,89E0	6,26E-1	1,61E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,77E-1	5,83E-2	3,99E-1
Secondary materials	kg	1,01E0	0E0	0E0	1,01E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	4,95E-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	5,44E-5	3,04E-4	3,37E-4	6,95E-4	1,3E-4	6,04E-4	MND	MND	MND	MND	MND	MND	MND	3,61E-8	7,36E-7	5,44E-5	1,25E-4	1,44E-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	6,19E-4	1,42E-3	2,38E-3	4,42E-3	6,09E-4	2,54E-3	MND	MND	MND	MND	MND	MND	MND	3,76E-7	3,43E-6	0E0	2,52E-4	1,82E-3
Non-hazardous waste	kg	2,68E-2	1,57E-1	5,58E-2	2,39E-1	6,73E-2	2,81E-2	MND	MND	MND	MND	MND	MND	MND	1,91E-5	3,8E-4	0E0	4,22E-1	7,86E-2
Radioactive waste	kg	7,5E-7	1E-5	5,53E-7	1,13E-5	4,3E-6	1,11E-5	MND	MND	MND	MND	MND	MND	MND	8,02E-11	2,43E-8	0E0	9,13E-7	2,01E-6

END OF LIFE – OUTPUT FLOWS

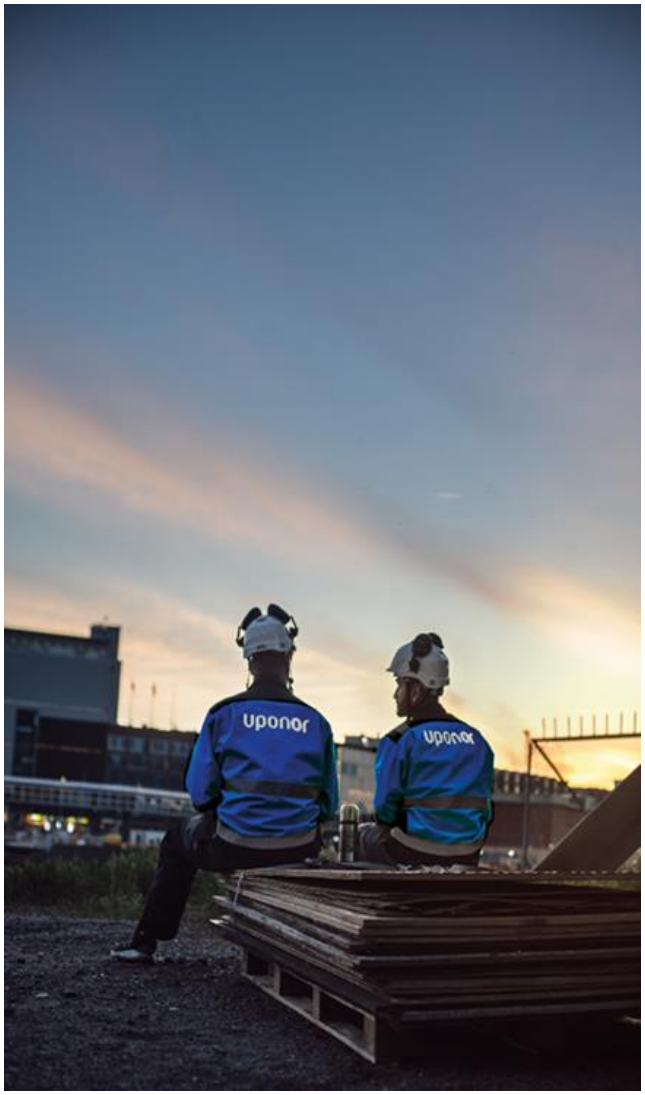
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,48E-2	1,48E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5E-2	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	6,5E-4	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	1,23E-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	1,28E-2	9,3E-2	3,52E-2	1,41E-1	3,99E-2	1,17E-1	MND	MND	MND	MND	MND	MND	MND	2,5E-6	2,25E-4	1,81E-2	7,16E-3	3,08E-2
Ozone depletion Pot.	kg $CFC_{-11}e$	8,68E-10	1,75E-8	1,22E-9	1,96E-8	7,52E-9	1,96E-8	MND	MND	MND	MND	MND	MND	MND	1,7E-13	4,25E-11	1,12E-9	1,58E-9	2,27E-9
Acidification	kg SO_2e	3,91E-5	1,91E-4	1,06E-4	3,36E-4	8,19E-5	1,85E-4	MND	MND	MND	MND	MND	MND	MND	2,85E-8	4,62E-7	3,33E-5	3,04E-4	8,44E-5
Eutrophication	kg PO_4^3e	2,63E-5	3,86E-5	6,49E-5	1,3E-4	1,65E-5	3,82E-5	MND	MND	MND	MND	MND	MND	MND	1,24E-8	9,34E-8	3,84E-5	8,21E-6	8,2E-5
POCP (“smog”)	kg C_2H_4e	4,2E-6	1,21E-5	4,88E-6	2,12E-5	5,19E-6	1,93E-5	MND	MND	MND	MND	MND	MND	MND	1,53E-9	2,93E-8	3,15E-6	1,57E-6	5,59E-6
ADP-elements	kg Sbe	1,61E-7	1,6E-6	1,25E-6	3,01E-6	6,87E-7	2,04E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	3,88E-9	2,26E-7	1,13E-7	4,13E-7
ADP-fossil	MJ	2,62E-1	1,46E0	1,66E-1	1,89E0	6,26E-1	1,61E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	3,99E-1

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	1,28E-2	9,29E-2	3,53E-2	1,41E-1	3,98E-2	1,16E-1	MND	MND	MND	MND	MND	MND	MND	2,49E-6	2,25E-4	1,81E-2	7,14E-3	3,1E-2
Ozone Depletion	kg $CFC_{-11}e$	1,11E-9	2,34E-8	1,48E-9	2,6E-8	1E-8	2,62E-8	MND	MND	MND	MND	MND	MND	MND	2,11E-13	5,66E-11	1,47E-9	2,1E-9	2,89E-9
Acidification	kg SO_2e	4,42E-5	3,43E-4	1,23E-4	5,11E-4	1,47E-4	1,1E-3	MND	MND	MND	MND	MND	MND	MND	2,65E-8	8,32E-7	4,68E-5	4,9E-5	9,62E-5
Eutrophication	kg Ne	6,69E-6	4,83E-5	6,02E-5	1,15E-4	2,07E-5	9,79E-5	MND	MND	MND	MND	MND	MND	MND	3,01E-9	1,17E-7	6,39E-6	5,66E-6	1,82E-5
POCP (“smog”)	kg O_3e	6,89E-4	7,53E-3	1,84E-3	1,01E-2	3,23E-3	3,35E-2	MND	MND	MND	MND	MND	MND	MND	2,16E-7	1,82E-5	9,05E-4	1,21E-3	1,43E-3
ADP-fossil	MJ	3E-2	2,09E-1	1,64E-2	2,55E-1	8,97E-2	2,34E-1	MND	MND	MND	MND	MND	MND	MND	2,45E-6	5,06E-4	2,24E-2	2,01E-2	3,32E-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
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)
1055230	CABLE DUCTING PIPE 110/97 BLACK/YELLOW 250M PE	2,2	3,13E-1	250,0	7,83E+1
1055232	CABLE DUCTING PIPE 32/26 BLACK 6M PE	0,3	3,89E-2	6,0	2,33E-1
1055233	CABLE DUCTING PIPE 50/40 BLACK 6M PEHD	0,7	9,65E-2	6,0	5,79E-1
1055234	CABLE DUCTING PIPE 75/61,4 BLACK 6M PEHD	1,5	2,10E-1	6,0	1,26E+0
1055236	CABLE DUCTING PIPE 50/43 YELLOW 6M PEHD	0,5	7,49E-2	6,0	4,49E-1
1055237	CABLE DUCTING PIPE 75/66 YELLOW 6M PEHD	1,0	1,47E-1	6,0	8,81E-1
1055238	CABLE DUCTING PIPE 110/99 YELLOW 6M PEHD	1,8	2,62E-1	6,0	1,57E+0
1055239	CABLE DUCTING PIPE 160/144 YELLOW 6M PEHD	3,9	5,54E-1	6,0	3,33E+0
1055261	CABLE DUCTING PIPE 110/90 BLACK 6M PEHD	3,1	4,51E-1	6,0	2,70E+0
1062662	CABLE DUCTING PIPE 110/90 BLACK/YELLOW 250M PE	3,2	4,67E-1	250,0	1,17E+2
1062665	CABLE DUCTING PIPE 75/61 BLACK/YELLOW 250M PE	1,5	2,17E-1	250,0	5,42E+1
1064342	CABLE DUCTING PIPE 125/110 BLACK/YELLOW 250M PE	4,1	5,91E-1	250,0	1,48E+2
1064352	CABLE DUCTING PIPE 125/103 BLACK/YELLOW 250M PE	4,1	5,90E-1	250,0	1,48E+2
1084559	CABLE DUCTING PIPE 75/66 BLACK/YELLOW 250M PE	1,0	1,49E-1	250,0	3,72E+1
1085766	CABLE DUCTING PIPE 140/123 BLACK/YELLOW 125M PE	3,3	4,75E-1	125,0	5,94E+1
1085767	CABLE DUCTING PIPE 140/114 BLACK/YELLOW 125M PE	4,0	5,76E-1	125,0	7,20E+1
1092776	CABLE DUCTING PIPE 90/79 BLACK/YELLOW 400M PE	1,5	2,10E-1	400,0	8,40E+1
1096929	CABLE DUCTING PIPE 90/74 BLACK/YELLOW 400M PE	1,5	2,10E-1	400,0	8,40E+1
1105840	CABLE DUCTING PIPE 160/141 BLACK/YELLOW 160M PE	4,7	6,77E-1	160,0	1,08E+2
1105841	CABLE DUCTING PIPE 160/131 BLACK/YELLOW 150M PE	4,7	6,77E-1	150,0	1,02E+2
1117840	CABLE DUCTING PIPE 160/144 BLACK/YELLOW SPECIAL LENGTH PE	5,0	7,20E-1	1,0	7,20E-1
1126485	CABLE DUCTING PIPE 160/144 BLACK/YELLOW 12M PE	3,9	5,54E-1	12,0	6,65E+0
1132709	CABLE DUCTING PIPE 160/141 BLACK/YELLOW 12M SDR17 PE100	4,6	6,56E-1	12,0	7,87E+0
1140238	CABLE DUCTING PIPE 160/131 BLACK/YELLOW 12M PE	3,9	5,54E-1	12,0	6,65E+0

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)
1055230	CABLE DUCTING PIPE 110/97 BLACK/YELLOW 250M PE	2,2	3,07E-1	250,0	7,66E+1
1055232	CABLE DUCTING PIPE 32/26 BLACK 6M PE	0,3	3,81E-2	6,0	2,28E-1
1055233	CABLE DUCTING PIPE 50/40 BLACK 6M PEHD	0,7	9,45E-2	6,0	5,67E-1
1055234	CABLE DUCTING PIPE 75/61,4 BLACK 6M PEHD	1,5	2,06E-1	6,0	1,24E+0
1055236	CABLE DUCTING PIPE 50/43 YELLOW 6M PEHD	0,5	7,33E-2	6,0	4,40E-1
1055237	CABLE DUCTING PIPE 75/66 YELLOW 6M PEHD	1,0	1,44E-1	6,0	8,63E-1
1055238	CABLE DUCTING PIPE 110/99 YELLOW 6M PEHD	1,8	2,56E-1	6,0	1,54E+0
1055239	CABLE DUCTING PIPE 160/144 YELLOW 6M PEHD	3,9	5,43E-1	6,0	3,26E+0
1055261	CABLE DUCTING PIPE 110/90 BLACK 6M PEHD	3,1	4,41E-1	6,0	2,65E+0
1062662	CABLE DUCTING PIPE 110/90 BLACK/YELLOW 250M PE	3,2	4,57E-1	250,0	1,14E+2
1062665	CABLE DUCTING PIPE 75/61 BLACK/YELLOW 250M PE	1,5	2,12E-1	250,0	5,30E+1
1064342	CABLE DUCTING PIPE 125/110 BLACK/YELLOW 250M PE	4,1	5,79E-1	250,0	1,45E+2
1064352	CABLE DUCTING PIPE 125/103 BLACK/YELLOW 250M PE	4,1	5,78E-1	250,0	1,44E+2
1084559	CABLE DUCTING PIPE 75/66 BLACK/YELLOW 250M PE	1,0	1,46E-1	250,0	3,64E+1
1085766	CABLE DUCTING PIPE 140/123 BLACK/YELLOW 125M PE	3,3	4,65E-1	125,0	5,82E+1
1085767	CABLE DUCTING PIPE 140/114 BLACK/YELLOW 125M PE	4,0	5,64E-1	125,0	7,05E+1
1092776	CABLE DUCTING PIPE 90/79 BLACK/YELLOW 400M PE	1,5	2,06E-1	400,0	8,22E+1
1096929	CABLE DUCTING PIPE 90/74 BLACK/YELLOW 400M PE	1,5	2,06E-1	400,0	8,22E+1
1105840	CABLE DUCTING PIPE 160/141 BLACK/YELLOW 160M PE	4,7	6,63E-1	160,0	1,06E+2
1105841	CABLE DUCTING PIPE 160/131 BLACK/YELLOW 150M PE	4,7	6,63E-1	150,0	9,94E+1
1117840	CABLE DUCTING PIPE 160/144 BLACK/YELLOW SPECIAL LENGTH PE	5,0	7,05E-1	1,0	7,05E-1
1126485	CABLE DUCTING PIPE 160/144 BLACK/YELLOW 12M PE	3,9	5,43E-1	12,0	6,51E+0
1132709	CABLE DUCTING PIPE 160/141 BLACK/YELLOW 12M SDR17 PE100	4,6	6,42E-1	12,0	7,71E+0
1140238	CABLE DUCTING PIPE 160/131 BLACK/YELLOW 12M PE	3,9	5,43E-1	12,0	6,51E+0

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 10 July 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	Haiha Nguyen, 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

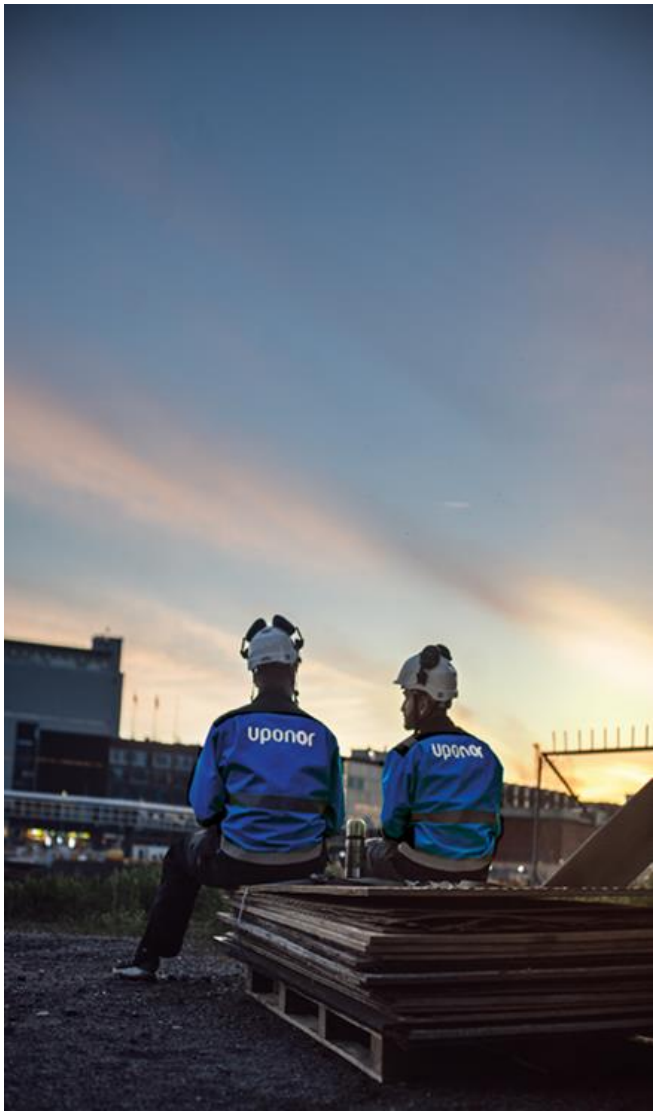
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,5E-2	1,5E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5E-2	0E0	0E0
Materials for energy 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	0,831	1,74E+0	6,0	1,04E+1
1051578	TRIPLA PIPE 110 SN16 YELLOW 6M PEHD	0,880	1,84E+0	6,0	1,10E+1
1051579	TRIPLA PIPE 110 SN8 GREEN 6M PEHD	0,831	1,74E+0	6,0	1,04E+1
1051580	TRIPLA PIPE 110 SN8 RED 6M PEHD	0,831	1,74E+0	6,0	1,04E+1
1051581	TRIPLA PIPE 110 SN16 RED 6M PEHD	0,880	1,84E+0	6,0	1,10E+1
1051584	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD	0,690	1,44E+0	6,0	8,65E+0
1051586	TRIPLA PIPE 160 SN8 YELLOW 6M PEHD	1,600	3,34E+0	6,0	2,01E+1
1051587	TRIPLA PIPE 160 SN16 YELLOW 6M PEHD	2,083	4,35E+0	6,0	2,61E+1
1051595	CABLE DUCTING DW PIPE 50 RED 50M PE	0,210	4,39E-1	50,0	2,19E+1
1051596	CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,210	4,39E-1	50,0	2,19E+1
1055199	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,267	5,57E-1	6,0	3,34E+0
1055200	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,220	4,60E-1	6,0	2,76E+0
1055201	CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,650	1,36E+0	6,0	8,15E+0
1055202	CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,450	3,03E+0	6,0	1,82E+1
1055203	CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,267	5,57E-1	6,0	3,34E+0
1055204	CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,600	1,25E+0	50,0	6,27E+1
1055205	CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,650	1,36E+0	6,0	8,15E+0
1055206	CABLE DUCTING DW PIPE 110/95 RED 6M PE SAND TIGHT	0,600	1,25E+0	6,0	7,52E+0
1055208	CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,267	5,57E-1	6,0	3,34E+0
1055211	TRIPLA PIPE 110 SN16 6M PEHD	0,900	1,88E+0	6,0	1,13E+1
1055213	TRIPLA PIPE 160 SN8 RED 6M PEHD	1,555	3,25E+0	6,0	1,95E+1
1055251	CABLE DUCTING DW PIPE 50 BLACK 25M PE	0,182	3,80E-1	25,0	9,51E+0
1055252	CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,214	4,47E-1	50,0	2,24E+1
1055253	CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,214	4,47E-1	50,0	2,24E+1
1055257	CABLE DUCTING DW PIPE 110 RED 50M PE	0,620	1,30E+0	50,0	6,48E+1
1055258	CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,570	1,19E+0	50,0	5,96E+1
1061124	CABLE DUCTING DW PIPE 75 YELLOW 50M PE	0,260	5,43E-1	50,0	2,72E+1
1087615	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD MALMO	0,650	1,36E+0	6,0	8,15E+0
1139962	TRIPLA PIPE 160 SN8 GREEN 6M PEHD	1,600	3,34E+0	6,0	2,01E+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	0,831	1,60E+0	6,0	9,62E+0
1051578	TRIPLA PIPE 110 SN16 YELLOW 6M PEHD	0,880	1,70E+0	6,0	1,02E+1
1051579	TRIPLA PIPE 110 SN8 GREEN 6M PEHD	0,831	1,60E+0	6,0	9,62E+0
1051580	TRIPLA PIPE 110 SN8 RED 6M PEHD	0,831	1,60E+0	6,0	9,62E+0
1051581	TRIPLA PIPE 110 SN16 RED 6M PEHD	0,880	1,70E+0	6,0	1,02E+1
1051584	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD	0,690	1,33E+0	6,0	7,99E+0
1051586	TRIPLA PIPE 160 SN8 YELLOW 6M PEHD	1,600	3,09E+0	6,0	1,85E+1
1051587	TRIPLA PIPE 160 SN16 YELLOW 6M PEHD	2,083	4,02E+0	6,0	2,41E+1
1051595	CABLE DUCTING DW PIPE 50 RED 50M PE	0,210	4,05E-1	50,0	2,03E+1
1051596	CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,210	4,05E-1	50,0	2,03E+1
1055199	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,267	5,15E-1	6,0	3,09E+0
1055200	CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,220	4,25E-1	6,0	2,55E+0
1055201	CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,650	1,25E+0	6,0	7,53E+0
1055202	CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,450	2,80E+0	6,0	1,68E+1
1055203	CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,267	5,15E-1	6,0	3,09E+0
1055204	CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,600	1,16E+0	50,0	5,79E+1
1055205	CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,650	1,25E+0	6,0	7,53E+0
1055206	CABLE DUCTING DW PIPE 110/95 RED 6M PE SAND TIGHT	0,600	1,16E+0	6,0	6,95E+0
1055208	CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,267	5,15E-1	6,0	3,09E+0
1055211	TRIPLA PIPE 110 SN16 6M PEHD	0,900	1,74E+0	6,0	1,04E+1
1055213	TRIPLA PIPE 160 SN8 RED 6M PEHD	1,555	3,00E+0	6,0	1,80E+1
1055251	CABLE DUCTING DW PIPE 50 BLACK 25M PE	0,182	3,51E-1	25,0	8,78E+0
1055252	CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,214	4,13E-1	50,0	2,07E+1
1055253	CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,214	4,13E-1	50,0	2,07E+1
1055257	CABLE DUCTING DW PIPE 110 RED 50M PE	0,620	1,20E+0	50,0	5,98E+1
1055258	CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,570	1,10E+0	50,0	5,50E+1
1061124	CABLE DUCTING DW PIPE 75 YELLOW 50M PE	0,260	5,02E-1	50,0	2,51E+1
1087615	TRIPLA PIPE 110 SN8 ORANGE 6M PEHD MALMO	0,650	1,25E+0	6,0	7,53E+0
1139962	TRIPLA PIPE 160 SN8 GREEN 6M PEHD	1,600	3,09E+0	6,0	1,85E+1

ENVIRONMENTAL PRODUCT DECLARATION

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

ICT DW Blue Cable Protection Pipes
Uponor Corporation

EPD HUB, HUB-0612
Publishing date 20 July 2023, last updated on 20 July 2023, valid until 20 July 2028

Created with One Click LCA

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	Sister EPD (Parent EPD: HUB-0470)
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	Haiha Nguyen, 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 DW Blue Cable Protection Pipes
Product reference	1140471 1140473 1140474 1140475 1140476 1140477 1140478 1140479 1140480 1140481 1140482 1140483 1140484 1140485 1140486 1140487
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)	2,05E0
GWP-total, A1-A3 (kgCO2e)	6,17E-1
Secondary material, inputs (%)	66,1
Secondary material, outputs (%)	5,0
Total energy use, A1-A3 (kWh)	9,94
Total water use, A1-A3 (m3e)	7,76E-2

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.

Uponor's double walled (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.

DW Blue Cable Protection pipes are part of Uponor's sustainable product offering. Renewable polyethylene raw material for the pipe is based on the Bornewables™ product range supplied by Borealis. These raw materials are made using sustainably sourced ISCC-certified renewable feedstocks derived solely from waste and residue streams unfit for human consumption and therefore do not impact food security.

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	35	EU
Bio-based materials	65	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,557
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
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.

–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

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	Not applicable

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	5,65E-1	1,4E-2	3,87E-2	6,17E-1	6,4E-2	1,2E-1	MND	MND	MND	MND	MND	MND	MND	2,58E-6	2,27E-4	1,2E-1	1,95E0	-9,9E-2
GWP – fossil	kg CO_2e	1,99E0	1,4E-2	4E-2	2,05E0	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	-1,02E-2
GWP – biogenic	kg CO_2e	-2,07E0	9,17E-6	-1,36E-3	-2,07E0	4,69E-5	1,79E-3	MND	MND	MND	MND	MND	MND	MND	-1,81E-9	1,65E-7	1,02E-1	1,94E0	-8,89E-2
GWP – LULUC	kg CO_2e	6,4E-1	4,29E-6	1,97E-5	6,4E-1	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	4,33E-5
Ozone depletion pot.	kg $CFC_{-11}e$	7,44E-8	3,25E-9	2,11E-9	7,97E-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	1,24E-9
Acidification potential	mol H^+e	9,82E-3	5,92E-5	2,55E-4	1,01E-2	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	-2,68E-5
EP-freshwater[2)]	kg Pe	1,64E-4	1,22E-7	1,63E-6	1,66E-4	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	-4,76E-9
EP-marine	kg Ne	8,62E-3	1,77E-5	1,58E-4	8,8E-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	9,71E-6
EP-terrestrial	mol Ne	3,39E-2	1,96E-4	9,93E-4	3,51E-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	5,33E-5
POCP ("smog")[3)]	kg NMVOCe	6,56E-3	6,28E-5	1,64E-4	6,78E-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	-2,72E-5
ADP-minerals & metals[4)]	kg Sbe	1,33E-5	2,38E-7	1,5E-6	1,5E-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	2,63E-8
ADP-fossil resources	MJ	3,44E1	2,16E-1	2,35E-1	3,49E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-8,97E-1
Water use[5)]	m^3e depr.	1,05E0	8,53E-4	6,69E-3	1,05E0	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	-8,23E-3

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	6,29E-8	1,26E-9	2,41E-9	6,66E-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	1,21E-9
Ionizing radiation[6)]	kBq U235e	1,75E-1	9,32E-4	7,89E-4	1,77E-1	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	5,87E-5
Ecotoxicity (freshwater)	CTUe	1,06E1	1,71E-1	7,16E-1	1,15E1	7,67E-1	1,03E0	MND	MND	MND	MND	MND	MND	MND	2,7E-4	2,7E-3	1,91E-1	1,1E-1	1,88E-1
Human toxicity, cancer	CTUh	3,45E-10	4,24E-12	6,06E-11	4,1E-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	2,61E-11
Human tox. non-cancer	CTUh	1,03E-8	1,97E-10	1,3E-9	1,18E-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	2,46E-10
SQP[7)]	-	2,92E1	3,25E-1	3,77E-1	2,99E1	1,52E0	4,95E-2	MND	MND	MND	MND	MND	MND	MND	2,19E-5	5,34E-3	1,1E-1	4,1E-1	1,21E-1

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	1,23E1	2,56E-3	2,42E0	1,48E1	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	1,08E-3
Renew. PER as material	MJ	3,05E1	0E0	1,22E-1	3,06E1	0E0	-1,22E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-1,52E0	-2,9E1	1,52E0
Total use of renew. PER	MJ	4,28E1	2,56E-3	2,55E0	4,54E1	1,26E-2	-1,09E-1	MND	MND	MND	MND	MND	MND	MND	3,89E-4	4,45E-5	-1,52E0	-2,9E1	1,52E0
Non-re. PER as energy	MJ	2,06E1	2,16E-1	2,35E-1	2,1E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-8E-2
Non-re. PER as material	MJ	1,7E1	0E0	0E0	1,7E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-8,49E-1	-1,61E1	-5,45E-5
Total use of non-re. PER	MJ	3,76E1	2,16E-1	2,35E-1	3,8E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	-6,68E-1	-1,6E1	-8E-2
Secondary materials	kg	6,61E-1	0E0	0E0	6,61E-1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	4,99E-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	7,7E-2	4,51E-5	6,05E-4	7,76E-2	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	3,49E-5

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,59E-2	2,32E-4	2,68E-3	1,88E-2	9,75E-4	2,54E-3	MND	MND	MND	MND	MND	MND	MND	3,76E-7	3,43E-6	0E0	2,52E-4	8,48E-4
Non-hazardous waste	kg	5,56E-1	2,35E-2	6,72E-2	6,46E-1	1,08E-1	2,83E-2	MND	MND	MND	MND	MND	MND	MND	1,91E-5	3,8E-4	0E0	4,22E-1	2,09E-2
Radioactive waste	kg	1,41E-5	1,47E-6	8,68E-7	1,65E-5	6,89E-6	1,11E-5	MND	MND	MND	MND	MND	MND	MND	8,02E-11	2,43E-8	0E0	9,13E-7	2,86E-7

END OF LIFE – OUTPUT FLOWS

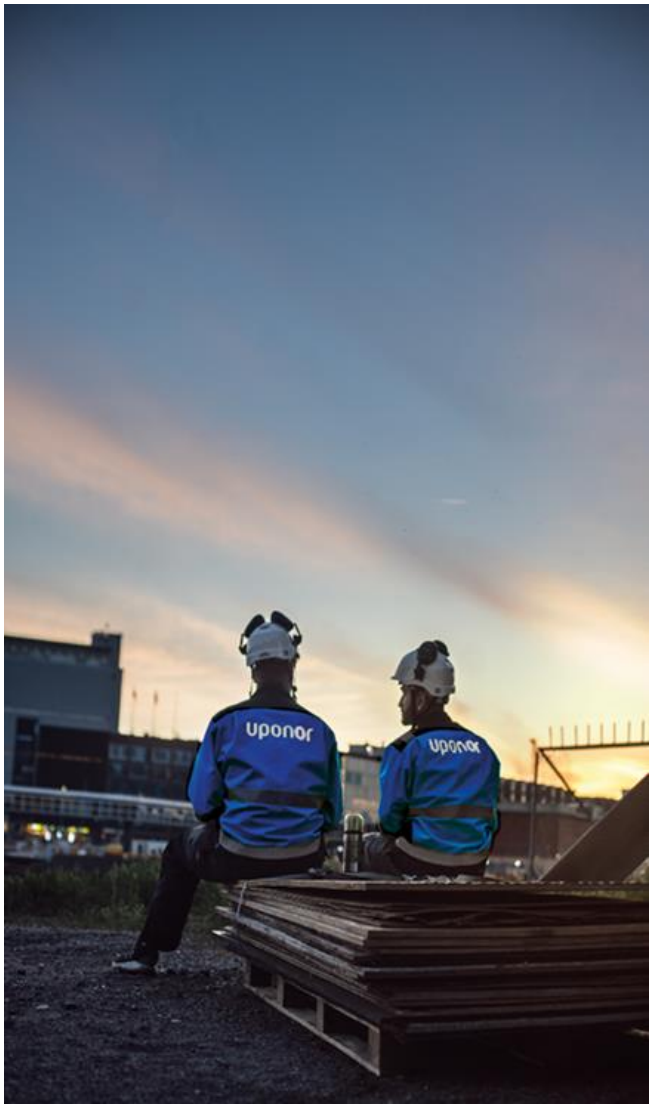
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,5E-2	1,5E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5E-2	0E0	0E0
Materials for energy 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	3,54E-1	1,39E-2	4,04E-2	4,08E-1	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	-6,8E-3
Ozone depletion Pot.	kg CFC_{-11}e	2,89E-6	2,58E-9	1,98E-9	2,9E-6	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	9,09E-10
Acidification	kg SO_2e	7,45E-3	3,43E-5	1,69E-4	7,65E-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	-2,86E-5
Eutrophication	kg PO_4^3e	5,13E-3	7,36E-6	1,11E-4	5,25E-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	8,67E-5
POCP (“smog”)	kg C_2H_4e	5,81E-4	1,8E-6	6,03E-6	5,89E-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	-4,59E-6
ADP-elements	kg Sbe	1,33E-5	2,38E-7	1,5E-6	1,5E-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	2,63E-8
ADP-fossil	MJ	3,44E1	2,16E-1	2,35E-1	3,49E1	1E0	1,62E0	MND	MND	MND	MND	MND	MND	MND	2,92E-5	3,53E-3	1,81E-1	1,47E-1	-8,97E-1

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	6,64E-1	1,39E-2	4,05E-2	7,18E-1	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	-6,83E-3
Ozone Depletion	kg CFC_{-11}e	2,23E-8	3,44E-9	2,32E-9	2,8E-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	1,35E-9
Acidification	kg SO_2e	2,12E-3	5,17E-5	2,02E-4	2,38E-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	-1,79E-5
Eutrophication	kg Ne	1,67E-4	7,23E-6	1,37E-4	3,11E-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	7,22E-6
POCP (“smog”)	kg O_3e	2,84E-2	1,12E-3	3,12E-3	3,26E-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	2,75E-4
ADP-fossil	MJ	3,6E0	3,08E-2	2,48E-2	3,65E0	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	-1,4E-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
20.07.2023

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)
1140471	DW BLUE CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,270	1,67E-1	6,0	1,00E+0
1140473	DW BLUE CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,270	1,67E-1	6,0	1,00E+0
1140474	DW BLUE CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,270	1,67E-1	6,0	1,00E+0
1140475	DW BLUE CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,220	1,36E-1	6,0	8,14E-1
1140476	DW BLUE CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,650	4,01E-1	6,0	2,41E+0
1140477	DW BLUE CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,650	4,01E-1	6,0	2,41E+0
1140478	DW BLUE CABLE DUCTING DW PIPE 110/95 RED 6M PE SAND TIGHT	0,600	3,70E-1	6,0	2,22E+0
1140479	DW BLUE CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,450	8,95E-1	6,0	5,37E+0
1140480	DW BLUE CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,210	1,30E-1	50,0	6,48E+0
1140481	DW BLUE CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,210	1,30E-1	50,0	6,48E+0
1140482	DW BLUE CABLE DUCTING DW PIPE 50 RED 50M PE	0,210	1,30E-1	50,0	6,48E+0
1140483	DW BLUE CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,210	1,30E-1	50,0	6,48E+0
1140484	DW BLUE CABLE DUCTING DW PIPE 75 YELLOW 50M PE	0,260	1,60E-1	50,0	8,02E+0
1140485	DW BLUE CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,570	3,52E-1	50,0	1,76E+1
1140486	DW BLUE CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,600	3,70E-1	50,0	1,85E+1
1140487	DW BLUE CABLE DUCTING DW PIPE 110 RED 50M PE	0,620	3,83E-1	50,0	1,91E+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)
1140471	DW BLUE CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE WATER TIGHT	0,270	1,10E-1	6,0	6,61E-1
1140473	DW BLUE CABLE DUCTING DW PIPE 50/42 GREEN 6M PE WATER TIGHT	0,270	1,10E-1	6,0	6,61E-1
1140474	DW BLUE CABLE DUCTING DW PIPE 50/42 ORANGE 6M PE WATER TIGHT	0,270	1,10E-1	6,0	6,61E-1
1140475	DW BLUE CABLE DUCTING DW PIPE 50/42 YELLOW 6M PE SAND TIGHT	0,220	8,98E-2	6,0	5,39E-1
1140476	DW BLUE CABLE DUCTING DW PIPE 110/95 YELLOW 6M PE SAND TIGHT	0,650	2,65E-1	6,0	1,59E+0
1140477	DW BLUE CABLE DUCTING DW PIPE 110/95 GREEN 6M PE SAND TIGHT	0,650	2,65E-1	6,0	1,59E+0
1140478	DW BLUE CABLE DUCTING DW PIPE 110/95 RED 6M PE SAND TIGHT	0,600	2,45E-1	6,0	1,47E+0
1140479	DW BLUE CABLE DUCTING DW PIPE 160/138 YELLOW 6M PE SAND TIGHT	1,450	5,92E-1	6,0	3,55E+0
1140480	DW BLUE CABLE DUCTING DW PIPE 50 YELLOW 50M PE	0,210	8,57E-2	50,0	4,28E+0
1140481	DW BLUE CABLE DUCTING DW PIPE 50 GREEN 50M PE	0,210	8,57E-2	50,0	4,28E+0
1140482	DW BLUE CABLE DUCTING DW PIPE 50 RED 50M PE	0,210	8,57E-2	50,0	4,28E+0
1140483	DW BLUE CABLE DUCTING DW PIPE 50 ORANGE 50M PE	0,210	8,57E-2	50,0	4,28E+0
1140484	DW BLUE CABLE DUCTING DW PIPE 75 YELLOW 50M PE	0,260	1,06E-1	50,0	5,30E+0
1140485	DW BLUE CABLE DUCTING DW PIPE 110 YELLOW 50M PE	0,570	2,33E-1	50,0	1,16E+1
1140486	DW BLUE CABLE DUCTING DW PIPE 110/94 GREEN 50M PE	0,600	2,45E-1	50,0	1,22E+1
1140487	DW BLUE CABLE DUCTING DW PIPE 110 RED 50M PE	0,620	2,53E-1	50,0	1,26E+1

Declaration of Compliance

According to the REACH regulation (EU) No. 1907/2006 and RoHS directives 2011/65/EU, (EU) 2015/863 and (EU) 2017/2102

2021/11/08

Categorization

Uponor is a downstream user according to article 3 no. 13 of the Reach regulation and therefore not obliged to register its products / systems. Downstream users have to guarantee that they are using only registered substances.

Basis on which conformity is declared

Uponor is aware of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of December 18th, 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals and later corrigendum to it (REACH), and of the requirements imposed by the directive 2011/65/EU (8th June 2011) of European Parliament and of Council, and by delegated directives (EU)2015/863 (31th march 2015) and (EU) 2017/2102 (15th November 2017) on the Restriction Of the use of certain Hazardous Substances (RoHS).

According to article 31 (1) of REACH the supplier of a substance or a mixture shall provide a safety data sheet where a substance or a mixture meets the criteria in accordance with Regulation (EC) No 1272/2008 and Directive 1907/2006/EC Annex II, XIII or Article 59 (1).

Furthermore article 33 of the regulation obliges the supplier of a product which includes a substance of the "candidate list" in a concentration > 0.1 % (w/w) to inform its consumers with at minimum the name of the substance. Therefore Uponor controls on a regular basis whether its suppliers fulfil their obligations under the REACH regulation regarding Uponor products / systems.

Compliant with the requirements of REACH, Uponor hereby declares based on information provided by its suppliers that as a general rule the following substances are not intentionally used or added during the manufacturing of our products:

- Substances of Very High Concern for authorisation updated by ECHA on 8th July 2021
- Substances under authorisation rules (Annex XIV of 18th December 2020)

If in individual cases these substances are contained in Uponor's final products in concentrations above 0.1 % (w/w) Uponor discloses them in the specific technical documentation of that particular product.

Compliant with the requirements imposed by RoHS, Uponor hereby declares based on information provided by its suppliers that our products falling under the scope of RoHS do not contain any of the hazardous substances restricted by RoHS in concentrations exceeding the maximum levels defined in Annex 2 of RoHS.

Responsible REACH Coordinator

Anders Andtbacka
Director, Standardisation and Legislation

Elena Enguídanos
Standardisation and Legislation Manager

Note: This declaration of conformity is based on the information provided by Uponor's suppliers. Uponor or its group companies shall not be liable for the validity or content of its suppliers' statements.

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