ENVIRONMENTAL PRODUCT DECLARATION

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

iQ storm water pipe Blue, range ID (inner diameter) 150 - 1200mm
Uponor Corporation

EPD HUB, HUB-0074
Publishing date 08 July 2022, last updated date 08 July 2022, valid until 08 July 2027

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Uponor Corporation
Address	Äyritie 20, 01510 Vantaa, 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: EPDHUB-0040)
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Dr. Qian Wang, Uponor Corporation
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
EPD verifier	E.A, 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	iQ storm water pipe Blue, range ID (inner diameter) 150 - 1200mm
Additional labels	
Product reference	1134140 1134141 1134142 1134143 1134144 1134145 1134146 1134147 1134148 1134149 1134150 1134151 1134152 1134153 1134154 1134155 1134156 1134157 1134158 1134144 1134145 1134146 1134147
Place of production	Uponor Infra Oy, Kouvolantie 365, 15550 Nastola, Finland Uponor Infra Ab, Industrivägen 11, 513 32 Fristad, Sweden Jita Oy, Lakarintie 10, 34800 Virrat, Finland
Period for data	2021
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3	<10%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of pipe
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	2,21
GWP-total, A1-A3 (kgCO2e)	7,64E-1
Secondary material, inputs (%)	5,9E1
Secondary material, outputs (%)	5,00
Total energy use, A1-A3 (kWh)	9,93
Total water use, A1-A3 (m3e)	6,42E-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

As one of the leading suppliers of plastic pipe systems, Uponor attaches great importance to product development. IQ storm water pipes are for storm water drainage. The pipe is a double wall plastic non-pressure gravity pipe made of polypropylene. IQ pipes blue are used as storm water pipes and road drums in various kinds of applications like municipal, transport, commercial, residential as well as agriculture and forestry.
The product consists of the following materials 99% polypropylene and 1% additives. IQ pipe Blue is 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.
Pipes are available from inner diameter 150mm up to inner diameter 1200mm. Outer layer of the pipe is black with two stripes and inner layer is white for easier inspection. The pipe has an in-line socket, which is a solid part of the pipe and is produced on extrusion production line. The in-line socket reduces the number of joints needed by 50%.

Further information can be found at www.uponor.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Fossil materials	42	EU
Bio-based materials	58	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.64
Biogenic carbon content in packaging, kg C	0.00413

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.

Manufacturing and Packaging

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

- Material conveying
- Extrusion (melting and processing of material)
- Pipe profile corrugation
- Cooling
- Cutting
- Packing

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

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. 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 installation scenarios in Uponor's infrastructure product EPDs are based on TEPPFA's (The European Plastic Pipe and Fittings Association) industry average EPDs. These documents and their background reports include industry consensus estimates of the resource use, emissions and affluent of typical European installations, including the size of installation trenches, machinery used for digging/excavation, volume of backfilling sand required for the installation, etc. These parameters have been used as input for the Uponor EPD modelling.

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 zero (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 PP, the end-of-life product is converted into recycled PP (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. No significant of steel bands in packaging, which is also excluded. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019. 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 which data are available for are included in the calculation. There is no neglected unit process more than 1% of total mass and energy flows. The total neglected input and output flows do also not exceed 5% of energy usage or mass. The life cycle analysis includes all industrial processes from raw material acquisition to production, distribution and end-of-life stages.
The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. In this study, as per the reference standard, allocation is conducted in the following order;

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 energy consumption data separately for each product produced the 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 percentages are 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 energy consumption, packaging materials 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.

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

AVERAGES AND VARIABILITY

This EPD is based on multiple factories. And the variations in GWP fossil from A1-A3 across all manufacturing factories are within 10%.

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	kg CO_2e	7,12E-1	1,51E-1	-9,75E-2	7,65E-1	5,49E-2	1,18E-2	MND	MND	MND	MND	MND	MND	MND	2,58E-6	3,19E-4	3,61E-2	6,21E-3	-5,76E-2
GWP – fossil	kg CO_2e	2E0	1,51E-1	6,03E-2	2,21E0	5,54E-2	9,46E-3	MND	MND	MND	MND	MND	MND	MND	2,58E-6	3,19E-4	3,61E-2	6,17E-3	-6,22E-2
GWP – biogenic	kg CO_2e	-1,84E0	9,23E-5	-1,58E-1	-1,99E0	3,39E-5	2,29E-3	MND	MND	MND	MND	MND	MND	MND	-1,81E-9	1,95E-7	1,44E-6	3,68E-5	4,54E-3
GWP – LULUC	kg CO_2e	5,45E-1	5,31E-5	6,33E-5	5,45E-1	1,95E-5	9,99E-6	MND	MND	MND	MND	MND	MND	MND	7,42E-9	1,12E-7	1,09E-6	3,26E-6	3,8E-5
Ozone depletion pot.	kg CFC_{-11}e	6,94E-8	3,45E-8	4,61E-9	1,09E-7	1,27E-8	8,33E-10	MND	MND	MND	MND	MND	MND	MND	1,85E-13	7,3E-11	3,94E-10	1,6E-9	7,99E-10
Acidification potential	mol H^+e	9,37E-3	6,2E-4	3,75E-4	1,04E-2	2,28E-4	5,02E-5	MND	MND	MND	MND	MND	MND	MND	3,29E-8	1,31E-6	2,53E-5	4,62E-5	-1,61E-4
EP-freshwater[3)]	kg Pe	1,63E-4	1,3E-6	2,65E-6	1,67E-4	4,78E-7	5,28E-7	MND	MND	MND	MND	MND	MND	MND	2,81E-10	2,75E-9	2,38E-8	9,8E-8	-2,05E-7
EP-marine	kg Ne	7,52E-3	1,84E-4	2,17E-4	7,92E-3	6,75E-5	9,3E-6	MND	MND	MND	MND	MND	MND	MND	3,72E-9	3,89E-7	1,03E-5	1,61E-5	-1,38E-5
EP-terrestrial	mol Ne	3,12E-2	2,03E-3	1,37E-3	3,46E-2	7,46E-4	9,74E-5	MND	MND	MND	MND	MND	MND	MND	4,34E-8	4,29E-6	1,1E-4	1,77E-4	-2,02E-4
POCP (“smog”)	kg NMVOCe	5,93E-3	6,37E-4	2,41E-4	6,8E-3	2,34E-4	2,9E-5	MND	MND	MND	MND	MND	MND	MND	1,42E-8	1,35E-6	4,93E-5	5,06E-5	-1,77E-4
ADP-minerals & metals	kg Sbe	1,3E-5	3,75E-6	2,78E-6	1,95E-5	1,38E-6	3,09E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	7,95E-9	3,88E-8	1,01E-7	-4,48E-7
ADP-fossil resources	MJ	3,94E1	2,3E0	5,38E-1	4,22E1	8,45E-1	1,33E-1	MND	MND	MND	MND	MND	MND	MND	2,92E-5	4,86E-3	2,79E-2	1,19E-1	-3,15E0
Water use[2)]	m^3e depr.	8,61E-1	8,16E-3	3,36E-2	9,02E-1	3E-3	1,32E-2	MND	MND	MND	MND	MND	MND	MND	1,32E-6	1,73E-5	1,37E-4	3,57E-3	-5,1E-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	6,25E-8	1,16E-8	4,59E-9	7,87E-8	4,27E-9	5,26E-10	MND	MND	MND	MND	MND	MND	MND	2,44E-13	2,46E-11	1,18E-9	7,89E-10	-5,51E-11
Ionizing radiation[5)]	kBq U235e	9,72E-2	1E-2	1,55E-3	1,09E-1	3,69E-3	6,62E-4	MND	MND	MND	MND	MND	MND	MND	7,87E-8	2,12E-5	1,15E-4	4,76E-4	-1,03E-3
Ecotoxicity (freshwater)	CTUe	9,68E0	1,79E0	9,62E-1	1,24E1	6,6E-1	2,54E-1	MND	MND	MND	MND	MND	MND	MND	2,7E-4	3,8E-3	4,23E-1	9,97E-2	3,36E-1
Human toxicity, cancer	CTUh	3,07E-10	5,08E-11	7,59E-11	4,33E-10	1,87E-11	6,81E-11	MND	MND	MND	MND	MND	MND	MND	1,09E-14	1,08E-13	6,85E-11	3,54E-12	1,92E-11
Human tox. non-cancer	CTUh	1,05E-8	2,06E-9	1,69E-9	1,42E-8	7,57E-10	2,61E-10	MND	MND	MND	MND	MND	MND	MND	3,4E-13	4,35E-12	3,74E-10	8,61E-11	-3,34E-12
SQP	-	2,49E1	2,56E0	4,77E-1	2,79E1	9,41E-1	2,83E-2	MND	MND	MND	MND	MND	MND	MND	2,19E-5	5,42E-3	4,2E-2	3,12E-1	1,3E-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	MJ	8,82E0	3,26E-2	2,92E0	1,18E1	1,2E-2	-4,95E-2	MND	MND	MND	MND	MND	MND	MND	3,89E-4	6,9E-5	4,91E-4	2,05E-3	-1,69E-2
Renew. PER as material	MJ	2,72E1	0E0	1,7E0	2,89E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	3,6E1	3,26E-2	4,62E0	4,07E1	1,2E-2	-4,95E-2	MND	MND	MND	MND	MND	MND	MND	3,89E-4	6,9E-5	4,91E-4	2,05E-3	-1,69E-2
Non-re. PER as energy	MJ	2,12E1	2,3E0	4,94E-1	2,4E1	8,45E-1	1,33E-1	MND	MND	MND	MND	MND	MND	MND	2,92E-5	4,86E-3	2,79E-2	1,19E-1	-7,64E-1
Non-re. PER as material	MJ	2,02E1	0E0	4,35E-2	2,03E1	0E0	9E-2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	-2,39E0
Total use of non-re. PER	MJ	4,14E1	2,3E0	5,38E-1	4,43E1	8,45E-1	2,23E-1	MND	MND	MND	MND	MND	MND	MND	2,92E-5	4,86E-3	2,79E-2	1,19E-1	-3,15E0
Secondary materials	kg	5,88E-1	0E0	2,13E-3	5,9E-1	0E0	1,69E-4	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	6,2E-2	4,36E-4	1,79E-3	6,42E-2	1,6E-4	5,34E-4	MND	MND	MND	MND	MND	MND	MND	3,61E-8	9,21E-7	8,63E-6	9,37E-5	-6,65E-5

6) 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	1,78E-2	2,39E-3	3,55E-3	2,38E-2	8,79E-4	4,27E-3	MND	MND	MND	MND	MND	MND	MND	3,76E-7	5,06E-6	0E0	2,16E-4	9,26E-4
Non-hazardous waste	kg	5,36E-1	1,99E-1	7,48E-2	8,09E-1	7,31E-2	2,4E-2	MND	MND	MND	MND	MND	MND	MND	1,91E-5	4,2E-4	0E0	3,08E-1	1,69E-3
Radioactive waste	kg	1,21E-5	1,57E-5	1,98E-6	2,98E-5	5,78E-6	5,79E-7	MND	MND	MND	MND	MND	MND	MND	8,02E-11	3,32E-8	0E0	7,27E-7	-5,22E-7

END OF LIFE – OUTPUT FLOWS

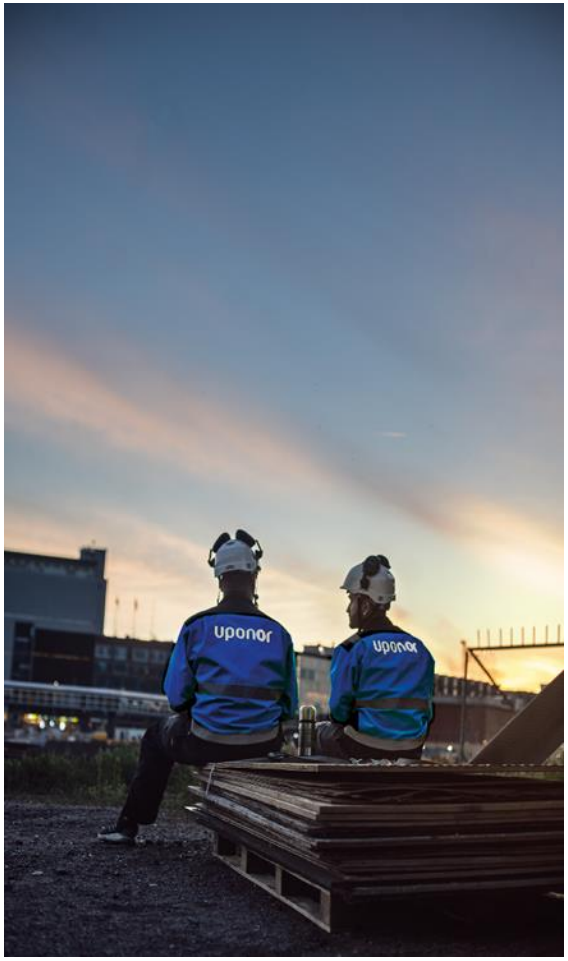
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,38E-2	1,38E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	6,3E-4	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	1,18E-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	4,89E-1	1,49E-1	5,95E-2	6,97E-1	5,49E-2	9,36E-3	MND	MND	MND	MND	MND	MND	MND	2,5E-6	3,16E-4	3,32E-2	6,09E-3	-5,36E-2
Ozone depletion Pot.	kg CFC_{-11}e	2,47E-6	2,75E-8	4,07E-9	2,5E-6	1,01E-8	7,71E-10	MND	MND	MND	MND	MND	MND	MND	1,7E-13	5,81E-11	3,15E-10	1,27E-9	3,15E-10
Acidification	kg SO_2e	7,22E-3	3,07E-4	2,14E-4	7,74E-3	1,13E-4	4,14E-5	MND	MND	MND	MND	MND	MND	MND	2,85E-8	6,49E-7	2,34E-5	2,29E-4	-1,35E-4
Eutrophication	kg PO_4^3e	4,54E-3	6,38E-5	1,5E-4	4,75E-3	2,35E-5	2,21E-5	MND	MND	MND	MND	MND	MND	MND	1,24E-8	1,35E-7	6,2E-4	7,98E-6	6,85E-5
POCP (“smog”)	kg C_2H_4e	4,82E-4	1,98E-5	1,65E-5	5,18E-4	7,29E-6	2,45E-6	MND	MND	MND	MND	MND	MND	MND	1,53E-9	4,2E-8	1,29E-5	1,29E-6	-1,01E-5
ADP-elements	kg Sbe	1,3E-5	3,75E-6	2,78E-6	1,95E-5	1,38E-6	3,09E-7	MND	MND	MND	MND	MND	MND	MND	2,66E-10	7,95E-9	3,88E-8	1,01E-7	-4,48E-7
ADP-fossil	MJ	3,94E1	2,3E0	5,38E-1	4,22E1	8,45E-1	1,33E-1	MND	MND	MND	MND	MND	MND	MND	2,92E-5	4,86E-3	2,79E-2	1,19E-1	-3,15E0

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	7,81E-1	1,49E-1	5,95E-2	9,89E-1	5,48E-2	9,37E-3	MND	MND	MND	MND	MND	MND	MND	2,49E-6	3,15E-4	3,33E-2	6,07E-3	-5,43E-2
Ozone Depletion	kg CFC_{-11}e	1,74E-8	3,66E-8	5,01E-9	5,9E-8	1,34E-8	9,96E-10	MND	MND	MND	MND	MND	MND	MND	2,11E-13	7,74E-11	4,19E-10	1,7E-9	6,77E-10
Acidification	kg SO_2e	2,41E-3	5,39E-4	2,92E-4	3,24E-3	1,98E-4	4,22E-5	MND	MND	MND	MND	MND	MND	MND	2,65E-8	1,14E-6	2,65E-5	4,12E-5	-1,21E-4
Eutrophication	kg Ne	1,64E-4	7,62E-5	1,95E-4	4,35E-4	2,8E-5	6,8E-6	MND	MND	MND	MND	MND	MND	MND	3,01E-9	1,61E-7	3,1E-6	4,69E-6	2,11E-6
POCP (“smog”)	kg O_3e	3,07E-2	1,16E-2	4,15E-3	4,65E-2	4,28E-3	5,05E-4	MND	MND	MND	MND	MND	MND	MND	2,16E-7	2,46E-5	6,88E-4	1,02E-3	-1,16E-3
ADP-fossil	MJ	4,42E0	3,28E-1	6,6E-2	4,81E0	1,21E-1	1,01E-2	MND	MND	MND	MND	MND	MND	MND	2,45E-6	6,93E-4	3,84E-3	1,62E-2	-4,8E-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.

Elma Avdyli, as an authorized verifier acting for EPD Hub Limited
08.07.2022