ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN15804+A2

20mm Qual-Pex+ 'Easy Lay' pipe

Owner of the declaration:
Pipelife Ireland Solutions Ltd

Product:
20mm Qual-Pex+ 'Easy Lay' pipe

Declared unit:
1 m

This declaration is based on Product Category Rules:
EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
EPD Ireland PCR Part A, Version 2.1, 2022

Program operator:
EPD Ireland - Irish Green Building Council

Declaration number:
EPDIE-25-206

Issue date:
28.08.2025

Valid to:
27.08.2030

General information

Product

20mm Qual-Pex+ 'Easy Lay' pipe

Owner of the declaration:

Pipelife Ireland Solutions Ltd
Contact person: Paul Warren
Phone: 021-4510600
e-mail: Ireland@pipelife.com

Program operator:

EPD Ireland - Irish Green Building Council
19 Mountjoy Square, Dublin D01 E8P5
Phone: +353 (01) 6815862
web: https://www.igbc.ie/epd-home/

Manufacturer:

Pipelife Ireland Solutions Ltd

Declaration number:

EPDIE-25-206

Place of production:

Pipelife Ireland Solutions Ltd
Little Island
Cork, T45 TX05, Ireland

This declaration is based on Product Category Rules:

EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
EPD Ireland PCR Part A, Version 2.1, 2022

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. The EPD Program operator shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Type of EPD

Specific product EPD

Issue date:

28.08.2025

Declared unit:

1 m 20mm Qual-Pex+ 'Easy Lay' pipe

Valid to:

27.08.2030

Scope of the EPD:

A1, A2, A3, A4, A5, B1, B2, B3, B4, B5, B6, B7, C1, C2, C3, C4, D

Year of study:

2025

Functional unit:

The declared unit for this Environmental Product Declaration (EPD) is 1 meter of the Qual-Pex Plus+ 'Easy-Lay' pipe, with a corresponding weight of 0.112 kg per declared unit (kg/DU).

Comparability:

Environmental Product Declarations from different programmes may not be directly comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See clause 5.3 of EN 15804:2012+A2:2019

LCA consultant or person responsible for LCA:
EcoReview, Martijn Blaak

Verification:

Independent verification of the declaration and data, according to ISO14025:2010

Approved:

SIGNATURE OF PROGRAMME OPERATOR

Third party verifier:
Stephen Forson

Pat Barry, CEO - Irish Green Building Council

Product

Product description:

The Qual-Pex Plus+ 'Easy-Lay' pipe is a high-performance, multi-purpose piping system engineered for reliable distribution of hot and cold water, central heating, and underfloor heating. Manufactured in Ireland to meet rigorous quality standards, this next-generation solution combines durability with exceptional flexibility. Its unique lay-flat design enables faster, easier, and more cost-effective installations across residential and commercial applications.

The Qual-Pex Plus+ pipe is compatible with a wide range of connection systems, including press, push-fit, and compression fittings, offering versatility and convenience on site. Designed for long-term performance and ease of use, it is ideal for modern plumbing and heating systems.

This product is intended for use in:

Potable hot and cold water distribution
Radiator-based central heating systems
Underfloor heating installations
Domestic and light commercial building services
Its flexibility, ease of handling, and compatibility with common fittings make it particularly well-suited for both new build and retrofit applications.

The main components from the product are:
Granules 97%
EVOH barrier <1%
Pigments <1%
Adhesive material <1%
Packaging <1%

Product specification:

Multilayer cross-linked polyethylene (PEX) pipe with an EVOH oxygen barrier, suitable for use in hot and cold potable water systems, central heating, and underfloor heating applications. Compatible with press, push-fit, and compression fittings.

Technical data:

-Certified to EN ISO 21003

Available Diameters:
• Imperial sizes: ½" (14.7mm), ¾" (21.0mm), and 1" (27.4mm)
• Metric sizes: 16mm, 20mm, 26mm, and 32mm
Available Lengths:
• Coils: 50m, 100m, and 150m rolls
• Straight lengths: Available in 3m and 6m options
Flexibility:
• The pipe's enhanced flexibility allows for smooth bending and installation without the need for special tools, while still maintaining sufficient rigidity to hold shape during installation.
Pressure Ratings:
• 12 bar at 20°C
• 4 bar at 82°C
• 3 bar at 92°C

Market/Geographical Area:

Primarily distributed and used within Ireland, the United Kingdom, and other European markets in both residential and light commercial sectors. The pipe is certified to EN ISO 21003, ensuring compatibility with European standards for piping systems.

Reference service life, product

The pipe is backed by a 50-year guarantee, reflecting its robust design and longevity, making it a reliable choice for diverse plumbing and heating projects.

Reference service life, building or construction works

50 years – aligned with the expected service life of the building systems in which the pipe is installed, assuming correct use, installation, and maintenance. For LCA purposes, the reference service life is set at 50 years, aligned with the manufacturer's guarantee and industry expectations for high-quality plumbing solutions.

LCA: Calculation rules

Declared unit:

1 m 20mm Qual-Pex+ 'Easy Lay' pipe

kg per Declared unit 0.112

Cut-off criteria:

Exclusions
The following elements are excluded from the scope of this LCA study in accordance with EN 15804+A2:
• Commuting of employees to and from the production site
• Machinery used within the facility (e.g., forklifts, maintenance equipment)
• Office-related activities such as IT equipment, administrative energy consumption, and staff facilities
• Capital goods and infrastructure (e.g., building construction and maintenance of the factory)
These exclusions are considered immaterial and are unlikely to significantly affect the overall results.

Allocation:

In accordance with EN 15804+A2, Section 6.4.3.3, the following allocation principles have been applied in this study:
• Waste allocation: Any waste generated during the production process was allocated based on mass. For instance, production waste such as pipe cuttings and off-spec material was modelled as waste output.
• Recycling and secondary material Use: Recycling processes have been modelled using a conservative approach. Recycled content is accounted for within the material production stages, while recycling credits for recovered material at the end of the pipe's life are included in Module D.
These allocation rules ensure compliance with EN 15804+A2 guidelines and provide a fair representation of environmental impacts throughout the product's life cycle.

Data quality:

The data collection took place in 2024.

Data flows have been modelled as realistically as possible. The data quality assessment is based on the principle that the primary data used for materials and processes occurring at the production site is selected in the first instance. Where this is not available, other reference data is selected from appropriate sources.

The following five criteria have been assessed for all generic datasets used in this LCA study:
• Time-related coverage: All datasets are from Ecoinvent 3.9.1 (2021), ensuring data is less than 5 years old.
• Geographical coverage: European datasets (RER) were prioritized to match the primary supply chain. Where unavailable, global data (GLO) was selected as the best alternative.
• Technological coverage: Each dataset reflects the most typical technology available in the market during the dataset's reference period.
• Completeness: All datasets include full upstream and downstream process chains to ensure completeness.
• Uncertainty: Ecoinvent datasets include inherent uncertainty values, with precision levels averaging ±5% for primary material processes.

Scope and type of EPD (X = Module declared; ND = Module not declared)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

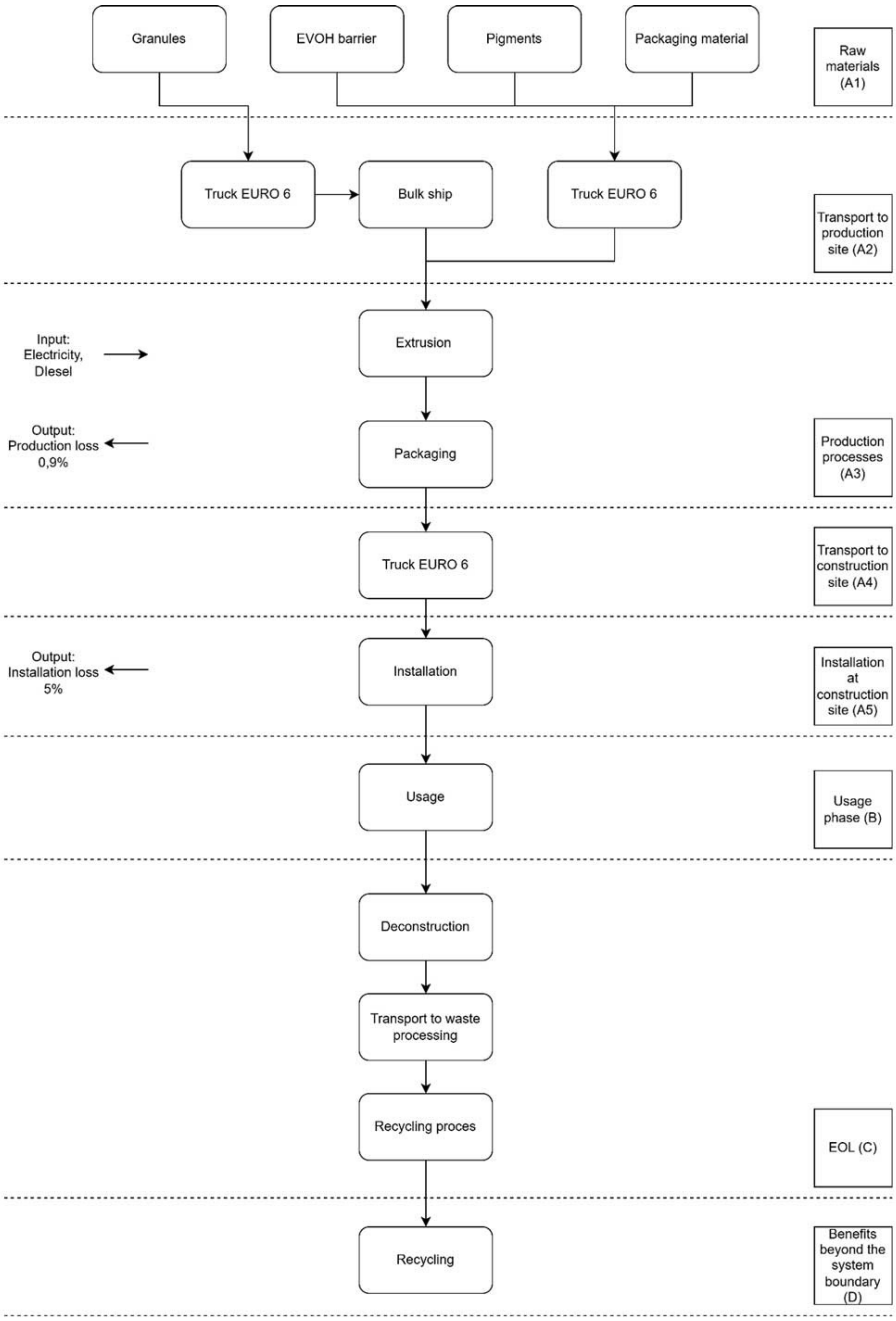
System boundary:

All the production and transport steps up to the factory gate are included in the system boundaries. This includes the transport to customer phase, construction phase, use phase, demolition phase and the waste processing phase. The LCA study is applicable to the Pipelife Ireland Solutions Ltd production location in Cork. A cradle-to-grave study is performed. Therefore, the analysis in this report covers the following phases:

- A1 Production of input materials
- A2 Transport
- A3 Production process
- A4 Transport to end user
- B Usage Phase
- C1 Demolition
- C2 Transport to waste processor
- C3 Waste processing
- C4 Final waste disposal
- D Benefits beyond system boundary

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA. And in accordance with EN15804+A2, the total neglected input flows per module do not exceed 5% of energy usage and mass.

This process outlines the life cycle of the pipe, following the EN 15804 standard phases (A1-D).
Raw Material Supply (A1): The product is composed of granules, an EVOH barrier, pigments, and packaging materials. These components are sourced and prepared for transport.
Transport to Production Site (A2): Raw materials are delivered to the production facility using EURO 6 trucks and bulk ships.
Manufacturing (A3): At the production site, the raw materials undergo extrusion to form the final product shape. The product is then packaged for distribution.
Transport to Construction Site (A4): The packaged product is transported to the construction site using EURO 6 trucks.
Installation (A5): The product is installed on-site as part of the construction project.
Usage Phase (B): The product remains in use throughout the building's lifetime. This phase typically includes maintenance, repair, and replacement, though they are not specified here.
End of Life (C): After its useful life, the product is deconstructed and transported to a waste processing facility. It then enters a recycling process.
Benefits Beyond the System Boundary (D): Recycled materials are fed back into the system, potentially displacing the need for virgin materials in future production processes.



Additional technical information:

• Electricity (Green Energy) allocation: Pipelife Ireland's production facility sources approximately 60% of its electricity through a GOO-certified Corporate Power Purchase Agreement (CPPA) with the Cronelea Upper wind farm, amounting to 6,963 MWh of renewable electricity in 2023. The remaining 40% of the electricity used—bringing total annual consumption to approximately 11,600 MWh—is sourced from the general Irish electricity grid and is not covered by GOO certification. In line with EN 15804 and the applicable PCR, the environmental benefits of the GOO-backed renewable electricity are proportionally allocated across all products manufactured at the facility, including the Qual-PEX Plus+ 'Easy Lay' pipe range. The non-certified portion is modelled using the standard Irish electricity mix for full transparency. A copy of the CPPA was included in the project dossier for the life cycle assessment underpinning this EPD, for validation purposes.

LCA: Scenarios and additional technical information

The following information describes the scenarios in the different modules of the EPD.

A4 Transport: A transport distance of 200 km is applied.

A5 Installation: Installation losses of 5% are applied. The packaging that reaches the end of life here is 14% landfilled, 20% is brought to the energy recovery facility and the last 66% is recycled.

B Usage phase: There is no significant environmental impacts during the usage phase.

C1- C4 Deconstruction: At the end of life, the product is assumed to be transported 50km to a sorting and recycling centre, where 100% of the material is recycled.

D Benefits beyond the system boundary: 67% of the recycled product is assumed to be able to replace raw materials, as per the Dutch assessment method.

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact

Indicator	Unit	A1	A2	A3	A4	A5	B1	B2	B3
GWP-total	kg CO_2 -eq	2.28E-01	8.81E-03	3.27E-02	2.32E-03	1.46E-02	0.00E+00	0.00E+00	0.00E+00
GWP-fossil	kg CO_2 -eq	2.26E-01	8.79E-03	3.58E-02	2.32E-03	1.39E-02	0.00E+00	0.00E+00	0.00E+00
GWP-biogenic	kg CO_2 -eq	2.16E-03	1.49E-05	-3.18E-03	4.52E-06	6.35E-04	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 -eq	6.97E-05	4.70E-06	5.66E-05	1.11E-06	5.30E-06	0.00E+00	0.00E+00	0.00E+00
ODP	kg CFC11 -eq	1.59E-09	1.87E-10	1.01E-09	5.10E-11	1.13E-10	0.00E+00	0.00E+00	0.00E+00
AP	mol H+ -eq	8.15E-04	4.60E-05	1.89E-04	5.59E-06	4.96E-05	0.00E+00	0.00E+00	0.00E+00
EP-FreshWater	kg P -eq	3.27E-06	6.80E-08	2.48E-06	1.89E-08	2.10E-07	0.00E+00	0.00E+00	0.00E+00
EP-Marine	kg N -eq	1.38E-04	1.12E-05	2.66E-05	1.49E-06	9.61E-06	0.00E+00	0.00E+00	0.00E+00
EP-Terrestial	mol N -eq	1.51E-03	1.22E-04	3.15E-04	1.56E-05	1.03E-04	0.00E+00	0.00E+00	0.00E+00
POCP	kg NMVOC -eq	4.22E-04	3.31E-05	9.96E-05	4.14E-06	2.81E-05	0.00E+00	0.00E+00	0.00E+00
ADP-minerals&metals[1]	kg Sb-eq	1.00E-06	2.23E-08	9.85E-08	6.31E-09	5.99E-08	0.00E+00	0.00E+00	0.00E+00
ADP-fossil[1]	MJ	7.91E+00	1.27E-01	6.93E-01	3.43E-02	4.26E-01	0.00E+00	0.00E+00	0.00E+00
WDP[1]	m^3	1.81E-01	5.74E-04	4.41E-02	1.60E-04	9.37E-03	0.00E+00	0.00E+00	0.00E+00

Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-04	4.20E-02	0.00E+00	-1.52E-01
GWP-fossil	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-04	3.22E-02	0.00E+00	-1.50E-01
GWP-biogenic	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-06	9.73E-03	0.00E+00	-1.43E-03
GWP-luluc	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.87E-05	0.00E+00	-4.39E-05
ODP	kg CFC11 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-11	4.32E-10	0.00E+00	-1.02E-09
AP	mol H+ -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-06	1.17E-04	0.00E+00	-5.13E-04
EP-FreshWater	kg P -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.70E-09	7.85E-07	0.00E+00	-2.07E-06
EP-Marine	kg N -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.70E-07	3.90E-05	0.00E+00	-9.02E-05
EP-Terrestial	mol N -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.88E-06	3.74E-04	0.00E+00	-9.91E-04
POCP	kg NMVOC -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-06	9.56E-05	0.00E+00	-5.11E-04
ADP-minerals&metals[1]	kg Sb-eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-09	1.53E-07	0.00E+00	-6.48E-07
ADP-fossil[1]	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.51E-03	4.41E-01	0.00E+00	-5.32E+00
WDP[1]	m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.99E-05	4.85E-03	0.00E+00	-1.21E-01

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment: EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PM	Disease incidence	6.82E-09	5.92E-10	1.15E-09	1.68E-10	4.77E-10	0.00E+00	0.00E+00	0.00E+00
	IRP[2]	kgBq U235 -eq	4.75E-03	5.81E-05	4.16E-03	1.65E-05	2.70E-04	0.00E+00	0.00E+00	0.00E+00
	ETP-fw[1]	CTUe	2.54E-01	5.40E-02	1.03E-01	1.42E-02	2.46E-02	0.00E+00	0.00E+00	0.00E+00
	HTP-c[1]	CTUh	2.10E-11	2.00E-12	2.20E-11	1.00E-12	2.00E-12	0.00E+00	0.00E+00	0.00E+00
	HTP-nc[1]	CTUh	6.72E-10	3.40E-11	3.04E-10	8.00E-12	4.60E-11	0.00E+00	0.00E+00	0.00E+00
	SQP[1]	dimensionless	2.37E-01	1.22E-01	5.11E-01	3.61E-02	3.87E-02	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PM	Disease incidence	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-11	1.91E-09	0.00E+00	-4.43E-09
	IRP[2]	kgBq U235 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-06	5.41E-04	0.00E+00	-3.12E-03
	ETP-fw[1]	CTUe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-03	1.65E-01	0.00E+00	-1.55E-01
	HTP-c[1]	CTUh	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-11	0.00E+00	-3.40E-11
	HTP-nc[1]	CTUh	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-12	1.84E-10	0.00E+00	-9.49E-10
	SQP[1]	dimensionless	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-03	3.70E-01	0.00E+00	-1.31E-01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.

Resource use										
Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PERE	MJ	1.42E-01	1.78E-03	2.16E-01	5.01E-04	1.08E-02	0.00E+00	0.00E+00	0.00E+00
	PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	1.42E-01	1.78E-03	2.16E-01	5.01E-04	1.08E-02	0.00E+00	0.00E+00	0.00E+00
	PENRE	MJ	4.00E+00	1.35E-01	6.57E-01	3.64E-02	2.33E-01	0.00E+00	0.00E+00	0.00E+00
	PENRM	MJ	4.49E+00	0.00E+00	4.04E-02	0.00E+00	2.24E-01	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	8.49E+00	1.35E-01	6.98E-01	3.64E-02	4.57E-01	0.00E+00	0.00E+00	0.00E+00
	SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	FW	m^3	2.50E-03	1.79E-05	1.28E-03	5.02E-06	1.34E-04	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PERE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-04	2.13E-02	0.00E+00	-9.24E-02
	PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-04	2.13E-02	0.00E+00	-9.24E-02
	PENRE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.05E-03	4.70E-01	0.00E+00	-5.71E+00
	PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.05E-03	4.70E-01	0.00E+00	-5.71E+00
	SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	FW	m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-06	1.39E-04	0.00E+00	-1.63E-03

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	HWD	kg	2.52E-06	7.74E-07	1.15E-06	2.13E-07	2.58E-07	0.00E+00	0.00E+00	0.00E+00
	NHWD	kg	8.96E-03	1.01E-02	3.81E-03	3.00E-03	9.64E-05	0.00E+00	0.00E+00	0.00E+00
	RWD	kg	3.75E-06	3.65E-08	3.32E-06	1.04E-08	2.11E-07	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-08	1.64E-06	0.00E+00	-1.61E-06
	NHWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-04	2.31E-02	0.00E+00	-4.71E-03
	RWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-09	3.98E-07	0.00E+00	-2.48E-06

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	1.01E-03	0.00E+00	6.05E-03	0.00E+00	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-03	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E-03	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-01	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"
*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	0.00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Mandatory additional information on release of dangerous substances to indoor air, soil and water.

None of the substances contained in the product are listed in the “Candidate List of Substances of Very High Concern for authorisation”, or they do not exceed the limit for registration with the European Chemicals Agency.

Bibliography

Database used: Ecoinvent v 3.9.1

ISO. (2006). 'ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.
ISO. (2006). 'ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.
NEN. (2013). 'NEN-EN 15804: Duurzaamheid van bouwwerken - Milieuverklaringen van producten - Basisregels voor de productgroep bouwproducten', NEN-EN 15804:2012+A1:2013.
ISO. (2006). 'ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Prin-ciples and procedures', International Organization for Standardization, ISO14025:2006.
NMD. (2022). Bepalingsmethode 'Milieuprestatie Bouwwerken' versie 1.1 inclusief de bijbehorende wijzigingsbladen.
CE Delft. (2010). Handboek Schaduwprijzen. Opgehaald van https://ce.nl/publicaties/handboek-schaduwprijzen-waardering-en-weging-van-emissies-en-milieueffecten/
TNO. (sd). Toxiciteit heeft z'n prijs : schaduwprijzen voor (eco-)toxiciteit en uitputting van abiotische grondstoffen binnen DuboCalc. Opgehaald van https://puc.overheid.nl/rijkswaterstaat/doc/PUC_119145_31/

EPD IRELAND	**Program operator and publisher** EPD Ireland - Irish Green Building Council 19 Mountjoy Square, Dublin D01 E8P5	Phone: e-mail: web:	+353 (01) 6815862 epd@igbc.ie https://www.igbc.ie/epd-home/
PIPELIFE wienerberger	**Owner of the declaration:** Pipelife Ireland Solutions Ltd Little Island, Cork, T45 TX05, Ireland	Phone: e-mail: web:	021-4510600 Ireland@pipelife.com https://www.pipelife.ie/
EcoReview Part of the solution.	**Author of the Life Cycle Assessment** EcoReview Netherlands Bijsterhuizen 4019-023, 6604 LW Wijchen, Netherlands	Phone: e-mail: web:	+31 (0)85 40 08 515 info@ecoreview.nl www.ecoreview.nl
LCA.no	**Developer of PDF generator** LCA.no AS Dokka 6A, 1671 Kråkerøy, Norway	Phone: e-mail: web:	+47 916 50 916 post@lca.no www.lca.no
ECO PLATFORM EPD VERIFIED	ECO Platform ECO Portal	web: web:	www.eco-platform.org ECO Portal