ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN15804+A2

CorriPipe/CorriDuct

Owner of the declaration:
JFC Group

Product:
CorriPipe/CorriDuct

Declared unit:
1 kg

This declaration is based on Product Category Rules:
EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
CEN TR 16970:2016 in Ireland for the development of Environmental Product Declarations (issued 05.03.2022), Version 2.1

Program operator:
EPD Ireland

Declaration number:
EPDIE-25-228

Issue date:
16.12.2025

Valid to:
15.12.2030

General information

Product

CorriPipe/CorriDuct

Owner of the declaration:

JFC Group
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Program operator:

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Manufacturer:

JFC Group
Weir Road
H54 RX46 Tuam Co Galway, Ireland

Declaration number:

EPDIE-25-228

Place of production:

JFC Group - Goldicote Business Park
Banbury Rd
CV37 7NB Goldicote, Stratford-upon-Avon, United Kingdom

This declaration is based on Product Category Rules:

EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
CEN TR 16970:2016 in Ireland for the development of Environmental Product Declarations (issued 05.03.2022), Version 2.1

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:

16.12.2025

Declared unit:

1 kg CorriPipe/CorriDuct

Valid to:

15.12.2030

Scope of the EPD:

A1, A2, A3, A4, A5, C1, C2, C3, C4, D

Year of study:

2024

Functional unit:

1 kg of twin-wall CorriPipe/CorriDuct

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, Peter Seymour

Verification:

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

Third party verifier:
Callum Hill

Approved:

SIGNATURE OF PROGRAMME OPERATOR

Pat Barry, CEO - Irish Green Building Council

Product

Product description:

The CorriPipe™ is a twin-wall pipe made of a blend of extruded recycled and primary HDPE (high density polyethylene) raw material, with minor amounts of masterbatch. The outer wall of the CorriPipe™ is corrugated providing excellent structural strength which reduces the possibility of onsite damage. The inner wall has a smooth seamless finish to assist hydraulic flow.

The primary function of the CorriPipe™ is to serve as a twin-wall polyethylene drainage pipe designed for surface and stormwater drainage. It is used in various applications, including civil engineering, construction, sports amenities, agriculture, and other sub-soil drainage systems. Its corrugated outer profile provides excellent structural strength, while the smooth inner wall ensures increased flow capacity.

Product specification:

Diameter (internal): should read 94mm, 100mm, 150mm,225mm,300mm,375mm,450mm,600mm,750mm,900mm,1050mm

Diameter (external): should read 111.5mm for 94mm, 119mm for 100mm, 178mm for 150mm, 265mm for 225mm, 354mm for 300mm, 426mm for 375mm, 512mm for 450mm, 680mm for 600mm, 848mm for 750mm, 1024mm for 900mm, 1200mm for 1050mm.

Lengths: standard length 6m
Pipe configuration options: unperforated, half-perforated, fully perforated.
Certified to BBA/HAPAS, certificate no. 02/H0609 (150mm-600mm). Leak testing to HAPAS requirement.

Technical data:

Material: HDPE (high density polyethylene)
Ring stiffness: SN2 to SN 8, (2 kN/m2 to 8 kN/m2) depending on size, according to ISO 9969.
Mannings roughness coefficient (n): 0.012 (s/m1/3)
Burial cover depth: typically 0.5m to 10.0m

Market/Geographical Area:

UK and Ireland

Reference service life, product

In excess of 100 years

Reference service life, building or construction works

LCA: Calculation rules

Declared unit:

1 kg CorriPipe/CorriDuct

kg per Declared unit 1

Cut-off criteria:

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA, and in accordance with EN15804+A2:2019. The study covers at least 95% of the materials and energy per module and at least 99% of the total use of materials and energy of each unit process. Long term emissions have been excluded from the study.

Allocation:

The measurement of environmental impacts in this EPD uses the LCIA methodologies recommended for PEF 3.1. In this EPD, the waste processes are allocated in the relevant module. In the case of the use of secondary materials or energy recovered from secondary fuels, the system boundary between the system under study and the previous system (providing the secondary materials) is set where outputs of the previous system, e.g. materials, products, building elements or energy, reach the end-of-waste state. The modularity and the polluter payer principles have been followed.

Data quality:

Time Representativeness
Data relating to the manufacturing of the CorriPipe, and the data relating to the background processes for environmental impacts are less than 2 years old, thus: Time Representativeness is considered to be Very good.

Geographical Representativeness
The processes and material references used in this LCA to represent the production of the CorriPipe are geographically representative, insofar as the production location of the pipe, and the raw materials supplied, lie within the regions for which the relevant Ecoinvent (version 3.11) environmental records have been selected, thus: Geographical Representativeness is considered to be Good.

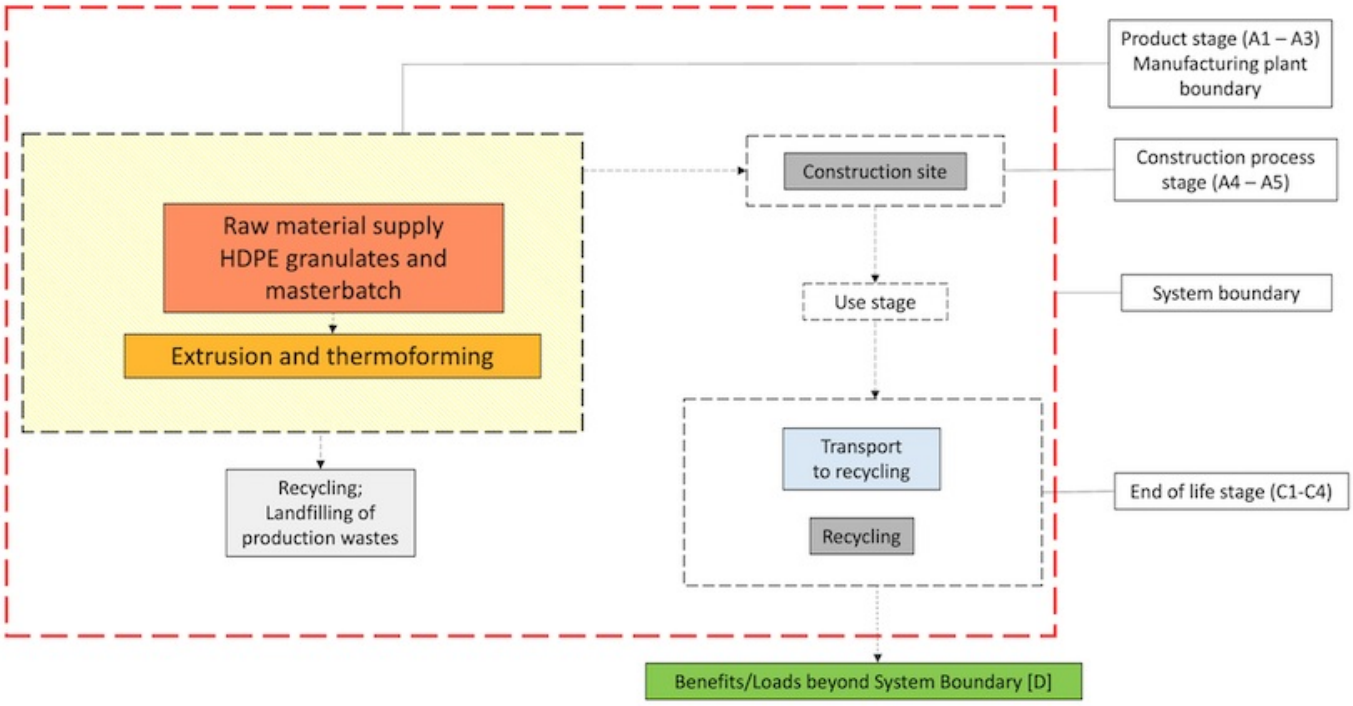
Technical Representativeness
Processes and energies used in the process have been modelled are based directly on the production data supplied by JFC, in relation to raw materials, processes and wastes generated. The LCA dataset for the main raw material is from Ecoinvent version 3.11, thus: Technical Representativeness is considered to be Good.

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	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

System boundary:

This LCA covers the Product (A1, A2 and A3), Construction (A4, A5) End of Life (C1 to C4) and Benefits/loads beyond the system boundary (D) Stages, as indicated above. This is termed: "Cradle to gate with options, modules C1 to C4, and module D". A schematic of these stages is presented in the flow diagram below.



Additional technical information:

Electricity modelling
This LCA calculates the CO2 intensity based on a representative mix of electricity generated by nuclear, gas, coal and renewables, from UK electricity suppliers, for the period modelled.The CO2 intensity of the electricity is 0.344 kg CO2-eq per kWh.

LCA: Scenarios and additional technical information

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

Transport (A4)
Transport distance to site is taken as default 200km, on a truck with capacity of 28 tonnes. Fully loaded, the truck carries 3.216 tonnes of pipe. It is assumed there are no back-loads.

Installation (A5)
Diesel for trench excavation is 0.1 litre per kg of pipe. Trench fill material use is 150 kg of granular fill per kg of pipe. Trench fill is calculated based on a representative installation scenario.

End of Life stage (C1-C4)
In the end of life scenario, it is assumed that 95% of the pipe remains in the ground, and 5% of the pipe is recovered and sent to recycling.
C1: deconstruction: 0.003 litre of diesel per kg of pipe, for excavation.
C2: transport: 50 km to local recycling facility.
C3: 0.05 kg of plastic is processed for recycling per kg of pipe installed.
C4: Assumed to be zero, as pipe remains in the ground, and there is no active disposal.

D Benefits and loads beyond the system boundary
Per 1 kg of pipe, 0.05 kg of plastic is recycled at end of life. Of this 0.05 kg plastic, 46% is primary raw material, which is the proportion that is counted as off-setting the production of virgin plastic.

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	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	1.75E+00	5.26E-02	2.14E-01	3.22E-01	4.49E-01	1.81E-02	4.63E-04	1.52E-02	0.00E+00	-1.78E-02
	GWP-fossil	kg CO_2 -eq	1.69E+00	5.26E-02	2.13E-01	3.21E-01	4.49E-01	1.81E-02	4.62E-04	1.19E-02	0.00E+00	-1.64E-02
	GWP-biogenic	kg CO_2 -eq	5.36E-02	2.94E-05	8.75E-04	2.95E-04	-5.88E-04	3.67E-06	4.23E-07	3.31E-03	0.00E+00	-1.46E-03
	GWP-luluc	kg CO_2 -eq	1.54E-03	2.94E-05	3.74E-05	1.59E-04	1.80E-04	1.85E-06	2.28E-07	1.08E-05	0.00E+00	-1.78E-05
	ODP	kg CFC11 -eq	4.49E-08	1.03E-09	4.13E-09	7.00E-09	6.05E-09	2.69E-10	1.00E-11	1.64E-10	0.00E+00	-2.38E-10
	AP	mol H+ -eq	6.06E-03	5.89E-04	6.09E-04	7.03E-04	8.57E-03	1.62E-04	1.01E-06	4.44E-05	0.00E+00	-6.07E-05
	EP-FreshWater	kg P -eq	4.20E-05	3.50E-07	3.41E-05	2.61E-06	6.12E-06	6.34E-08	3.75E-09	2.98E-07	0.00E+00	-6.18E-07
	EP-Marine	kg N -eq	1.32E-03	1.49E-04	1.27E-04	1.73E-04	3.02E-03	7.53E-05	2.49E-07	1.48E-05	0.00E+00	-1.54E-05
	EP-Terrestial	mol N -eq	1.43E-02	1.63E-03	1.29E-03	1.80E-03	4.18E-02	8.25E-04	2.59E-06	1.42E-04	0.00E+00	-1.61E-04
	POCP	kg NMVOC -eq	8.07E-03	5.06E-04	5.84E-04	1.09E-03	9.46E-03	2.47E-04	1.57E-06	5.44E-05	0.00E+00	-5.68E-05
	ADP-minerals&metals[1]	kg Sb-eq	8.35E-06	1.31E-07	2.52E-06	1.05E-06	1.01E-06	6.47E-09	1.51E-09	5.81E-08	0.00E+00	-9.85E-08
	ADP-fossil[1]	MJ	4.07E+01	7.13E-01	5.19E+00	4.57E+00	5.42E+00	2.34E-01	6.56E-03	1.68E-01	0.00E+00	-2.19E-01
	WDP[1]	m^3	7.61E-01	2.54E-03	5.49E-02	1.89E-02	5.16E-01	6.62E-04	2.72E-05	1.83E-03	0.00E+00	-2.43E-03

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"

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

Remarks on environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
	PM	Disease incidence	7.62E-08	3.13E-09	4.16E-09	2.39E-08	1.36E-07	4.62E-09	3.40E-11	8.67E-10	0.00E+00	-9.38E-10
	IRP[2]	kgBq U235 -eq	2.73E-02	2.96E-04	1.36E-01	2.31E-03	3.09E-03	3.92E-05	3.32E-06	2.06E-04	0.00E+00	-9.67E-04
	ETP-fw[1]	CTUe	9.85E+00	3.52E-01	5.13E-01	2.26E+00	6.12E+00	1.28E-02	3.24E-03	6.82E-02	0.00E+00	-7.52E-02
	HTP-c[1]	CTUh	5.63E-10	2.30E-11	6.00E-11	1.47E-10	2.26E-10	2.00E-12	0.00E+00	1.50E-11	0.00E+00	-1.40E-11
	HTP-nc[1]	CTUh	1.26E-08	4.17E-10	2.47E-09	3.24E-09	2.51E-09	2.90E-11	5.00E-12	1.43E-10	0.00E+00	-1.98E-10
	SQP[1]	dimensionless	5.86E+00	3.20E-01	3.89E-01	2.76E+00	2.25E+00	1.57E-02	3.97E-03	1.27E-01	0.00E+00	-1.26E-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"

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	C1	C2	C3	C4	D
	PERE	MJ	1.19E+00	9.27E-03	9.07E-01	7.18E-02	2.90E-01	1.48E-03	1.03E-04	8.10E-03	0.00E+00	-2.59E-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	0.00E+00
	PERT	MJ	1.19E+00	9.27E-03	9.07E-01	7.18E-02	2.90E-01	1.48E-03	1.03E-04	8.10E-03	0.00E+00	-2.59E-02
	PENRE	MJ	6.89E-01	7.58E-01	5.49E+00	4.85E+00	5.77E+00	2.49E-01	6.97E-03	1.79E-01	0.00E+00	-2.32E-01
	PENRM	MJ	4.30E+01	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	4.37E+01	7.58E-01	5.49E+00	4.85E+00	5.77E+00	2.49E-01	6.97E-03	1.79E-01	0.00E+00	-2.32E-01
	SM	kg	5.33E-01	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	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	0.00E+00
	FW	m^3	1.80E-02	8.19E-05	1.60E-03	6.13E-04	1.24E-02	2.03E-05	8.81E-07	5.20E-05	0.00E+00	-1.13E-04

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"

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
	HWD	kg	7.11E-04	4.24E-06	1.65E-05	2.90E-05	3.28E-05	1.64E-06	4.17E-08	6.24E-07	0.00E+00	-6.97E-07
	NHWD	kg	1.73E-01	2.56E-02	2.01E-02	2.27E-01	2.23E-02	1.59E-04	3.26E-04	8.79E-03	0.00E+00	-7.13E-03
	RWD	kg	1.83E-05	1.86E-07	3.32E-05	1.50E-06	1.89E-06	2.47E-08	2.16E-09	1.51E-07	0.00E+00	-7.67E-07

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"

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	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	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-02	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	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	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	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"

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

Dangerous substances

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.

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

Bibliography

[1] 'ISO 14040: Environmental management -Life cycle assessment – Principles and Framework, International Organization for Standardization, ISO14040:2006.

[2] 'ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines, International Organization for Standardization, ISO14044:2006.

[3] 'ISO 14025: Environmental labels and declarations - Type III environmental declarations - Principles and procedures, International Organization for Standardization, ISO14025:2006.

[4 EN 15804:2012+A2:2019: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products EN 15804:2012+A2:2019.

[5] Product Category Rules: Part A, Implementation and use of EN 15804:2012+A2:2019 and CEN TR 16970:2016 in Ireland for the development of Environmental Product Declarations; Version 2.0, issue date: 17.08.2021, published by the EPD Ireland Programme operator (Irish Green Building Council).

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