

**Environmental
Product
Declaration**

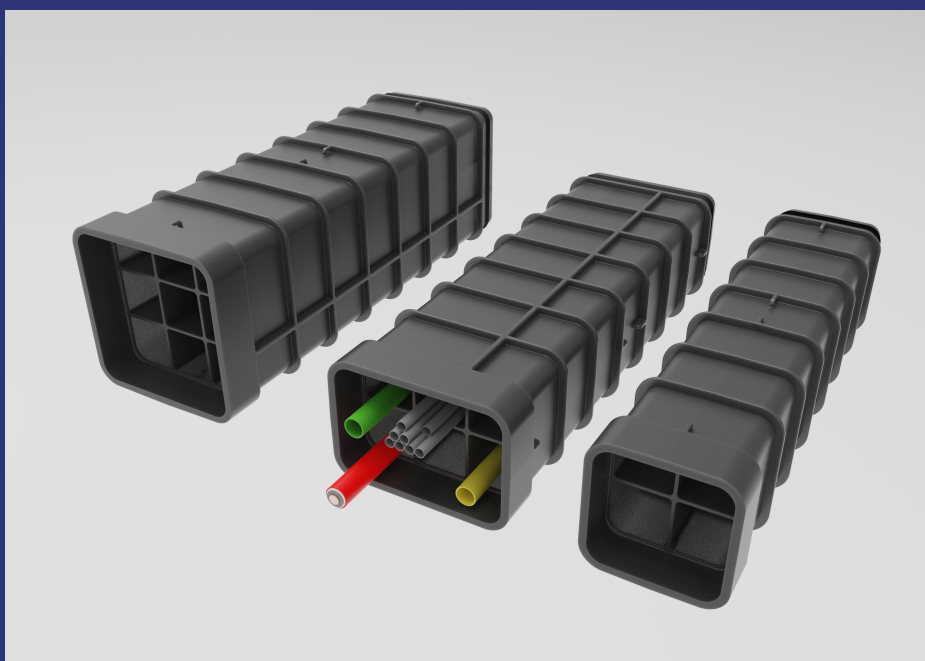
ISO14025+EN15804 A2 (+indicators A1)
Environmental Performance Assessment Method for
Construction Works

This declaration is for:

Utilis

Provided by:

PION Cable Protection



MRPI® registration:

00012.2026.1.0

Program operator:

Stichting MRPI

Publisher:

Stichting MRPI

www.mrpi.nl

Date of first issue:

17-06-2026

Date of this issue:

17-06-2026

Expiry date:

17-06-2031

COMPANY INFORMATION

PION Cable Protection
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<https://pioncableprotection.com>

MRPI® REGISTRATION

00012.2026.1.0

DATE OF THIS ISSUE

17-06-2026

EXPIRY DATE

17-06-2031

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Vroege, Gert-Jan, Eco-Intelligence. The LCA study has been done by Wessels, Rik, Hedgehog Company B.V.. The certificate is based on a LCA-dossier According to ISO14025+EN15804 A2 (+indicators A1) Environmental Performance Assessment Method for Construction Works. It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 16th of April 2026, V. 5.3'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2.

PROGRAM OPERATOR

Stichting MRPI
Kingsfordweg 151
1043 GR
Amsterdam

PRODUCT

Utilis

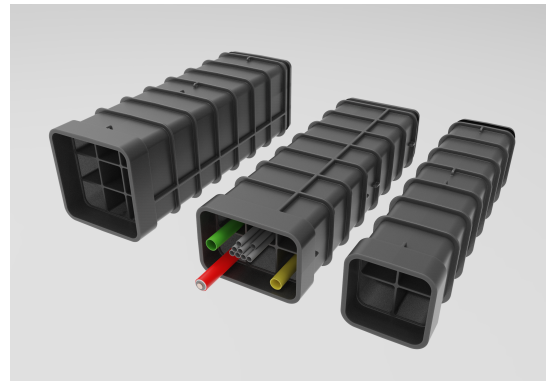
DECLARED AND FUNCTIONAL UNIT

Length (1 m)

DESCRIPTION OF PRODUCT

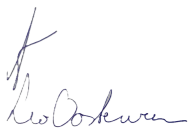
The Utilis is a compartmentalized pipe that separates cables safely and clearly.

VISUAL PRODUCT



MORE INFORMATION

<https://pioncableprotection.com/>

Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI	Demonstration of verification
	CEN standard EN15804 serves as the core PCR [1]
	Independent verification of the declaration and data ISO14025+EN15804 A2 (+indicators A1) Environmental Performance Assessment Method for Construction Works Internal: External: X
	Independent verifier: Vroege, Gert-Jan, Eco-Intelligence. Certified NMD verifier.
	
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

The Utilis is produced from post-consumer recycled HDPE. It is produced in three sizes: the 4-way, 6-way, and 9-way. The reference service life is 100 years. See below table for specific dimensions of all product sizes.

Density: 0.96 g/cm³ (non-foamed)
 Processing temperature: -5°C to +40°C
 Storage temperature: -25°C to +55°C
 E-modulus: Minimum 1000 N/mm² at 20°C
 Tensile strength: Minimum 20 N/mm²

Type	Dimensions (mm)	Mass (kg)	Insertion depth (mm)	SN Class
4-way	1090x257x254	9.5	80	SN140
6-way	1090x366x254	13.2	80	SN368
9-way	1090x368x363	18.4	80	SN159

Biogenic carbon:

The packaging materials of the Utilis contain biogenic carbon. The biogenic carbon content at factory gate is listed in the table below.

Biogenic carbon content	kg C
Biogenic carbon content in product	0
Biogenic carbon content in accompanying packaging	0,179
Note: 1 kg biogenic carbon (kg C) is equivalent to 44/12 kg of CO ₂ .	

Component (> 1%)	%
rHDPE	98
Additives (colourant)	2

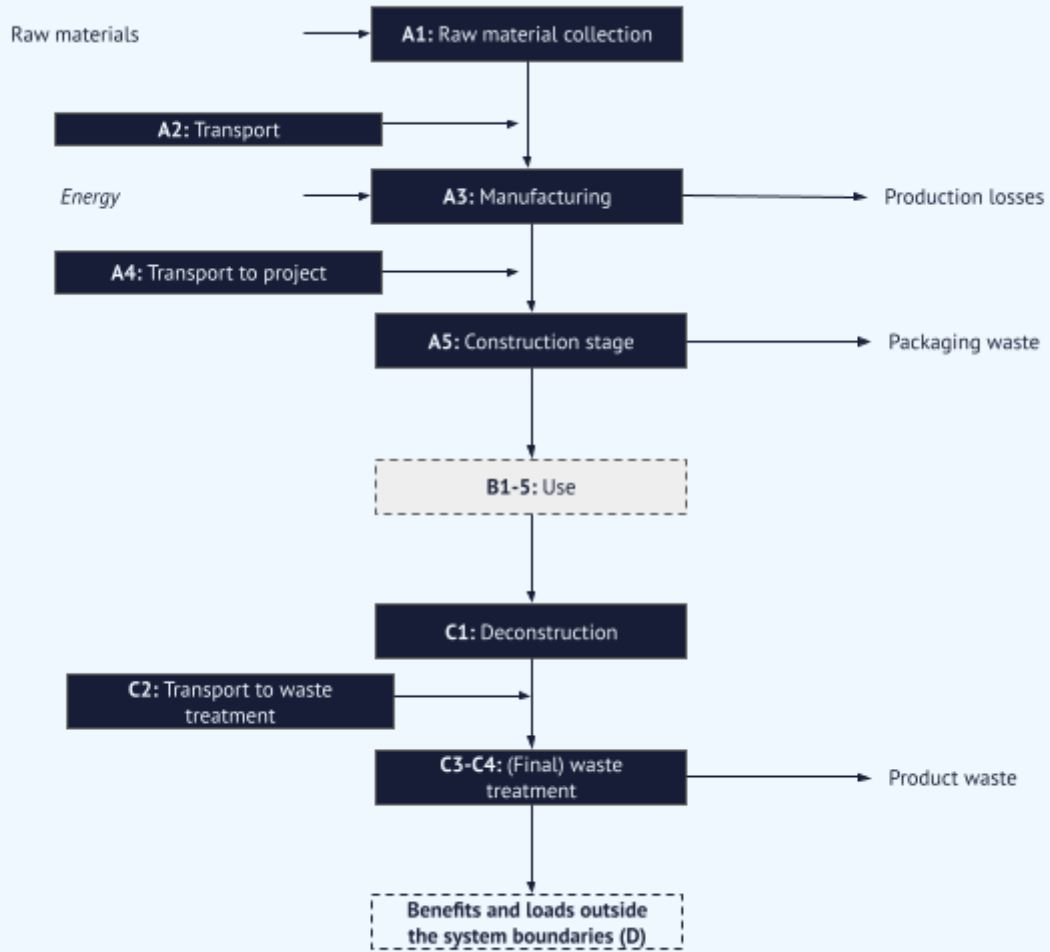
SCOPE AND TYPE

Background database: Ecoinvent 3.9.1
 Method: Cut-off by classification
 Software: Simapro 10.2
 Characterization factor: Environmental Footprint (EF) 3.1

The Utilis is produced in the Netherlands, there are two production sites: Leeuwarden (4-way and 9-way) and Ede (6-way). The product is applied on the Dutch market and the End-of-life scenario is based on Dutch market averages (Standard Dutch Environmental Database EoL Scenario). The used background database is Ecoinvent v3.9.1. (2022)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	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	ND	ND	x	x	x	x	x

X = Modules Assesed
ND = Not Declared



ENVIRONMENTAL IMPACT PER FUNCTIONAL UNIT OR DECLARED UNIT INDICATORS (A1)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq	6.84E-06	9.92E-06	4.39E-05	6.07E-05	4.49E-06	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.79E-07	2.19E-06	9.30E-07	-2.79E-07
ADPF	MJ	1.48E+01	5.93E+00	6.91E+01	8.98E+01	2.69E+00	2.95E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.07E-01	1.93E+00	2.08E+00	-1.61E+01
GWP	kg CO2 eq	4.67E-01	3.88E-01	3.87E+00	4.73E+00	1.76E-01	8.31E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.00E-03	9.55E-01	1.04E+00	-8.49E-01
ODP (A1)	kg CFC11 eq	9.98E-08	6.89E-08	3.46E-07	5.15E-07	3.12E-08	1.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.24E-09	1.31E-08	2.15E-08	-9.88E-08
POCP	kg ethene eq	4.48E-04	2.34E-04	7.46E-04	1.43E-03	1.06E-04	5.33E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	4.22E-06	6.36E-05	2.35E-04	-1.27E-04
AP kg SO2	kg SO2 eq	2.19E-03	1.71E-03	6.03E-03	9.93E-03	7.73E-04	4.17E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	3.08E-05	5.72E-04	5.76E-04	-5.90E-04
EP	kg (PO4) 3-eq	2.86E-04	3.35E-04	9.55E-04	1.58E-03	1.52E-04	8.34E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	6.05E-06	1.08E-04	2.32E-04	-9.35E-05

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HTP	kg DCB eq	1.66E-01	1.63E-01	6.55E-01	9.84E-01	7.40E-02	5.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	2.95E-03	1.44E-01	8.51E-02	-4.77E-02
FAETP	kg DCB eq	4.22E-03	4.77E-03	1.28E-02	2.18E-02	2.16E-03	8.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	8.60E-05	1.08E-02	8.85E-02	-5.25E-04
MAETP	kg DCB eq	1.41E+01	1.72E+01	4.90E+01	8.03E+01	7.77E+00	1.43E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	3.09E-01	1.89E+01	8.85E+01	-2.10E+00
TETP	kg DCB eq	5.99E-04	5.78E-04	2.14E-02	2.26E-02	2.62E-04	7.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.04E-05	7.83E-04	1.47E-04	-1.63E-04
ECI	euro	5.32E-02	4.68E-02	2.99E-01	3.99E-01	2.12E-02	5.12E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	8.00E-04	6.65E-02	7.61E-02	-5.17E-02
ADPFk gSb	kg Sb eq	7.11E-03	2.85E-03	3.32E-02	4.32E-02	1.29E-03	1.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	5.15E-05	9.30E-04	9.99E-04	-7.76E-03

ADPE = Abiotic Depletion Potential for non-fossil resources
 ADPF = Abiotic Depletion Potential for fossil resources
 GWP = Global Warming Potential
 ODP = Depletion potential of the stratospheric ozone layer
 POCP = Formation potential of tropospheric ozone photochemical oxidants
 AP = Acidification Potential of land and water
 EP = Eutrophication Potential
 HTP = Human Toxicity Potential
 FAETP = Fresh water aquatic ecotoxicity potential
 MAETP = Marine aquatic ecotoxicity potential
 TETP = Terrestrial ecotoxicity potential
 ECI = Environmental Cost Indicator
 ADPF = Abiotic Depletion Potential for fossil resources

ENVIRONMENTAL IMPACT PER FUNCTIONAL UNIT OR DECLARED UNIT (CORE INDICATORS A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	4.18E-01	4.30E-01	3.87E+00	4.72E+00	1.96E-01	9.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.79E-03	9.46E-01	1.04E+00	-9.16E-01
GWP-fossil	kg CO ₂ eq	4.80E-01	4.29E-01	3.87E+00	4.78E+00	1.95E-01	8.87E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.76E-03	9.46E-01	1.04E+00	-9.16E-01
GWP-biogenic	kg CO ₂ eq	-6.31E-02	0.00E+00	0.00E+00	-6.31E-02	0.00E+00	6.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO ₂ eq	1.11E-03	1.53E-03	7.21E-04	3.36E-03	6.95E-04	1.84E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	2.77E-05	1.80E-04	7.43E-05	-8.91E-05
ODP (A2)	kg CFC11 eq	9.88E-09	7.63E-09	3.59E-07	3.77E-07	3.47E-09	1.20E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.38E-10	2.32E-09	2.27E-09	-4.86E-08
AP mol H+	mol H+ eq	2.22E-03	2.05E-03	7.47E-03	1.17E-02	9.34E-04	5.88E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	3.72E-05	6.46E-04	7.04E-04	-6.64E-04
EP-freshwater	kg P eq	1.99E-05	4.27E-06	8.58E-05	1.10E-04	1.94E-06	4.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.72E-08	6.47E-06	1.48E-06	-2.07E-06
EP-marine	kg N eq	4.70E-04	7.80E-04	1.74E-03	2.99E-03	3.55E-04	1.83E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.41E-05	1.73E-04	4.63E-04	-2.47E-04
EP-terrestrial	mol N eq	5.00E-03	8.32E-03	1.96E-02	3.29E-02	3.78E-03	1.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.51E-04	1.80E-03	2.77E-03	-2.81E-03
POCP kg NMVOC	kg NMVOC eq	2.69E-03	2.84E-03	5.77E-03	1.13E-02	1.29E-03	6.34E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	5.14E-05	5.89E-04	1.20E-03	-1.41E-03
ADP-minerals & metals	kg Sb eq	1.76E-06	1.34E-06	4.27E-05	4.58E-05	6.11E-07	1.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	2.43E-08	1.01E-06	2.05E-07	-2.29E-07
ADP-fossil	MJ, net calorific value	1.46E+01	6.14E+00	6.28E+01	8.35E+01	2.79E+00	3.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.11E-01	2.13E+00	2.11E+00	-1.42E+01
WDP	m3 world eq. Deprived	1.48E-01	3.77E-02	3.62E+00	3.81E+00	1.71E-02	1.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	6.82E-04	3.45E-02	9.10E-02	-7.36E-02

GWP-total = Global Warming Potential total
 GWP-fossil = Global Warming Potential fossil fuels
 GWP-biogenic = Global Warming Potential biogenictotal
 GWP-LULUC = Global Warming Potential land use and land use change
 ODP = Depletion potential of the stratospheric ozone layer
 AP = Acidification Potential, Accumulated Exceedence
 AP-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 Exceedence
 POCP = Formation potential of tropospheric ozone photochemical oxidants
 ADP-minerals & metals = Abiotic Depletion Potential for non-fossil resources [1]
 ADP-fossil = Abiotic Depletion for fossil resources potential [1]
 WDP = Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [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 experience with the indicator.

ENVIRONMENTAL IMPACT PER FUNCTIONAL UNIT OR DECLARED UNIT (ADDITIONAL INDICATORS A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	5.72E-08	4.23E-08	3.69E-08	1.36E-07	1.93E-08	7.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.66E-10	8.54E-09	1.48E-08	-4.06E-09
IRP	kBq U235 eq	8.60E-03	2.40E-03	1.01E-01	1.12E-01	1.09E-03	4.30E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	4.34E-05	1.01E-02	1.16E-03	-1.36E-03
ETP-fw	CTUe	4.41E+00	4.53E+00	3.48E+01	4.37E+01	2.06E+00	1.71E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	8.20E-02	8.15E-01	1.57E+00	-4.07E-01
HTP-c	CTUh	1.69E-10	2.27E-10	1.10E-09	1.50E-09	1.03E-10	1.00E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	4.11E-12	1.60E-10	5.77E-11	-1.14E-10
HTP-nc	CTUh	3.43E-09	4.93E-09	2.90E-08	3.74E-08	2.24E-09	2.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	8.93E-11	3.11E-09	2.26E-09	-1.13E-09
SQP	-	4.62E+01	4.85E+00	3.50E+01	8.61E+01	2.20E+00	2.90E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	8.77E-02	1.15E+00	4.75E+00	-1.85E+00

- PM = Potential incidence of disease due to particulate matter emissions
 IRP = Potential Human exposure efficiency relative to U235 [1]
 ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]
 HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]
 HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
 SQP = Potential soil quality index [2]

Disclaimer [1]:

- 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.

Disclaimer [2]:

- 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 experience with the indicator.

OUTPUT FLOWS AND WASTE CATEGORIES PER FUNCTIONAL OR DECLARED UNIT (A1 AND A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	3.77E-05	3.92E-05	2.10E-04	2.87E-04	1.78E-05	1.15E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.09E-07	6.69E-06	1.04E-05	-5.91E-05
NHWD	kg	4.32E-02	4.06E-01	1.08E-01	5.57E-01	1.85E-01	7.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	7.35E-03	6.75E-02	8.21E+00	-1.64E-02
RWD	kg	5.87E-06	1.41E-06	8.95E-05	9.68E-05	6.39E-07	3.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	2.54E-08	8.03E-06	7.08E-07	-9.38E-07
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	0.00E+00	5.46E-03	5.46E-03	0.00E+00	5.93E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	2.61E-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	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	4.18E-02	4.18E-02	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	2.00E+00	0.00E+00	0.00E+00
ETE	MJ	0.00E+00	0.00E+00	7.19E-02	7.19E-02	0.00E+00	1.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	3.44E+00	0.00E+00	0.00E+00

HWD = Hazardous Waste Disposed
 NHWD = Non Hazardous Waste Disposed
 RWD = Radioactive Waste Disposed
 CRU = Components for reuse
 MFR = Materials for recycling
 MER = Materials for energy recovery
 EEE = Exported Electrical Energy
 ETE = Exported Thermal Energy

RESOURCE USE PER FUNCTIONAL OR DECLARED UNIT (A1 AND A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	5.64E+00	8.68E-02	8.95E+00	1.47E+01	3.95E-02	7.66E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.57E-03	2.71E-01	3.89E-02	-4.58E-01
PERM	MJ	7.00E+00	0.00E+00	0.00E+00	7.00E+00	0.00E+00	-7.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.26E+01	8.68E-02	8.95E+00	2.16E+01	3.95E-02	6.69E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.57E-03	2.71E-01	3.89E-02	-4.58E-01
PENRE	MJ	-3.63E+02	6.15E+00	7.46E+01	-2.82E+02	2.80E+00	3.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.11E-01	2.43E+01	3.50E+02	-1.38E+01
PENRM	MJ	3.78E+02	0.00E+00	-7.74E+00	3.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	-2.22E+01	-3.48E+02	0.00E+00
PENRT	MJ	1.46E+01	6.15E+00	6.69E+01	8.77E+01	2.80E+00	3.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	1.11E-01	2.12E+00	2.11E+00	-1.38E+01
SM	kg	8.72E+00	0.00E+00	0.00E+00	8.72E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	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	0.00E+00	ND	ND	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	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	3.57E-03	1.58E-03	9.08E-02	9.60E-02	7.19E-04	3.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	2.86E-05	1.45E-03	2.22E-03	-1.14E-03

PERE = Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable 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 = Use of net fresh water

CALCULATION RULES

Allocation and cut-off criteria:

The system boundary at the end of the life cycle for this product system is defined as the point at which the input material reaches the end-of-waste point. At that point, the material enters the product system and is further processed into the end product. The end-of-waste point for plastic recycling is determined after sorting, washing and regranulation.

All known inputs and outputs for each unit process were included in the calculation. Data collection was performed in accordance with the requirements of EN 15804:2012+A2:2019. Personnel-related processes, such as transportation of employees to and from work, are not accounted for. Capital goods and infrastructure are included in the background system.

Ecoinvent v3.9.1 (released 15-12-2022), with system model cut-off by classification is used for the background datasets. The Environmental Footprint (EF) 3.1 characterisation factors are applied.

DATA QUALITY

The processes within the product system that take place during the life cycle provide a geographically representative picture (Fair to Very Good). This is because actual inventory data from PION and its suppliers has been used, with specific background processes applied for the Netherlands and Europe. Wherever possible, data supplied by suppliers has been utilised, with specific background processes applied for the relevant regions in which the raw materials are extracted and produced. Furthermore, this study provides a technologically and temporal representative picture (Very Good), as specific company, process and product data for 2025 have been used for the study. The data are therefore up to date and representative of the current state of the art.

The assessment of the data quality of the entire model was carried out in accordance with the data quality levels and criteria set out in the UN Environment Global Guidance on LCA database development, as proposed in EN 15804.

POWER MIX

Electricity is modelled with the market-based approach. Contractual instruments are used to model a share of the electricity mix (Corporate Power Purchase Agreement). On-site electricity generation (PV) is modelled as such. The share of the electricity not covered by contractual instruments is modelled based on the residual mix (Default grey mix in the Dutch Environmental Database). The total climate change impact per kWh of PV is 0.0978 kg CO₂/kWh. For the grey mix, the total climate change impact is 0.515 kg CO₂/kWh. For the total mix, this amounts to 0.419 kg CO₂/kWh.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Raw material collection (A1)

This module concerns the extraction and processing of raw materials and energy occurring upstream of the manufacturer.

Transport to manufacturer (A2)

This module concerns the transport of raw materials to the manufacturing facility. Transport is modelled based on unspecified lorry transport (road). The default load factor is used from Ecoinvent.

Manufacturing (A3)

In this module, the raw materials are injected into the correct shape using a mould and then cooled. Use of energy, waste and direct emissions are accounted for.

Transport to project site (A4)

Default transportation distances (150 km) of the Assessment Method are applied.

Installation (A5)

The Utilis can be installed manually and does not require any additional energy or materials during installation. As the Utilis requires the presence of cables, any groundworks required should be attributed to the cables.

This study further assumes a default construction loss rate of 3%, based on the Assessment Method. Additionally, packaging materials are discarded in A5.

End-of-life (C1-C4)

The end-of-life stage is modelled based on the default EoL scenario for civil engineering pipes of the Assessment Method. This scenario assumes that 94% remains in place (declared as sanitary landfill), 3% is incinerated with energy recovery, and 3% is recycled.

Benefits and loads outside the system boundaries (D)

Benefits from treatment of packaging waste are declared in this module. Energy recovery is considered for the 3% of the product that is incinerated. In line with the Assessment Method the net output flow (loss of secondary material) is set to zero. There are no further environmental benefits considered for the recycling of the material at EoL.

Scalability

The Assessment Method allows for scaling of similar products with different dimensions. A scaling formula has been determined using a regression analysis based on the weight per linear metre. The range is fixed for 8.72 kg/m (4-Way), 12.11 kg/m (6-Way) and 16.88 kg/m (9-Way). A non-linear regression yielded the best formula in accordance with the least squares method. The function describing the trend line is shown below.

$$y = 2,966E-03x^2 + 3,963E-02x + 4,599E-01$$

The environmental impact of the three different Utilis pipes can be calculated by substituting x with the weight per metre.

DECLARATION OF SVHC

No substances of very high concern of authorisation to declare for the product under study.

REFERENCES

- [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] EN 15804+A2: Duurzaamheid van bouwwerken - Milieuverklaringen van producten - Basisregels voor de productgroep bouwproducten, NEN-EN 15804:2012+A2:2019.
- [4] Bepalingsmethode Milieuprestatie Bouwwerken', Stichting Nationale Milieudatabase, versie 1.2, januari 2025, inclusief amendement 6.
- [5] NMD-Toetsingsprotocol opname data in de Nationale Milieudatabase, op basis van de Bepalingsmethode Milieuprestatie Bouwwerken', Stichting Nationale Milieudatabase, versie 2.0, juli 2025
- [6] ISO 14025: Environmental labels and declarations - Type III environmental declarations - Principles and procedures', International Organization for Standardization, ISO14025:2006.

