Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.64

Product:	3042413 - PE100 Pressure Pipe BK 140x12.7 L=12
Unit:	1 piece
Manufacturer:	Wavin - DE - Westeregeln - verified
Address:	Borrweg 10 39448 Börde-Hakel Germany
Contact:	https://www.wavin.com/en-en

PE pressure pipe that offers the right solution for every part of the main network in your sewerage system.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	11-08-2022
End of validity:	11-08-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - DE - Westeregeln - verified (2020). (☑ = module declared, MND = module not declared).

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

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.24E+2	2.81E+0	2.25E+0	1.29E+2	1.62E+0	5.27E+1	8.98E-1	-8.13E+1	1.03E+2
GWP-f	kg CO2 eq	1.23E+2	2.80E+0	1.88E+0	1.28E+2	1.62E+0	5.28E+1	8.98E-1	-8.10E+1	1.02E+2
GWP-b	kg CO2 eq	6.01E-1	1.29E-3	1.76E-1	7.78E-1	9.84E-4	-6.22E-2	6.74E-4	-3.07E-1	4.10E-1
GWP-luluc	kg CO2 eq	3.68E-2	1.03E-3	1.96E-1	2.34E-1	5.74E-4	9.10E-3	1.29E-5	-1.84E-2	2.25E-1
ODP	kg CFC11 eq	6.74E-6	6.19E-7	2.62E-7	7.62E-6	3.73E-7	1.18E-6	1.92E-8	-3.89E-6	5.32E-6
AP	mol H+ eq	4.59E-1	1.63E-2	1.08E-2	4.86E-1	9.23E-3	4.98E-2	4.57E-4	-2.24E-1	3.21E-1
EP-fw	kg P eq	2.03E-3	2.83E-5	4.19E-5	2.10E-3	1.33E-5	2.63E-4	5.93E-7	-1.01E-3	1.37E-3
EP-m	kg N eq	7.68E-2	5.73E-3	2.36E-3	8.49E-2	3.30E-3	1.45E-2	3.23E-4	-4.10E-2	6.20E-2
EP-T	mol N eq	8.55E-1	6.32E-2	2.35E-2	9.42E-1	3.64E-2	1.59E-1	1.86E-3	-4.56E-1	6.84E-1
POCP	kg NMVOC eq	4.10E-1	1.80E-2	6.75E-3	4.35E-1	1.04E-2	5.04E-2	7.27E-4	-2.13E-1	2.83E-1
ADP-mm	kg Sb eq	1.11E-3	7.10E-5	5.03E-5	1.23E-3	4.19E-5	1.97E-4	4.59E-7	-5.24E-4	9.44E-4
ADP-f	MJ	4.38E+3	4.23E+1	2.25E+1	4.44E+3	2.49E+1	1.58E+2	1.40E+0	-2.43E+3	2.19E+3
WDP	m3 depriv.	9.43E+1	1.51E-1	1.15E+1	1.06E+2	7.63E-2	3.10E+0	6.41E-3	-4.72E+1	6.19E+1
PM	disease inc.	4.37E-6	2.52E-7	1.03E-7	4.72E-6	1.46E-7	8.19E-7	9.61E-9	-1.77E-6	3.93E-6
IR	kBq U-235 eq	3.77E+0	1.77E-1	6.45E-2	4.02E+0	1.09E-1	4.76E-1	6.52E-3	-1.47E+0	3.14E+0
ETP-fw	CTUe	7.87E+2	3.77E+1	5.16E+1	8.76E+2	2.02E+1	1.79E+2	1.23E+0	-3.53E+2	7.23E+2
HTP-c	CTUh	3.22E-8	1.22E-9	1.91E-9	3.53E-8	7.19E-10	2.13E-8	3.40E-11	-1.68E-8	4.06E-8
HTP-nc	CTUh	7.64E-7	4.12E-8	4.81E-8	8.53E-7	2.41E-8	2.69E-7	7.84E-10	-3.75E-7	7.72E-7
SQP	Pt	1.66E+2	3.67E+1	2.33E+0	2.05E+2	2.13E+1	1.26E+2	3.59E+0	-7.71E+1	2.79E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.05E+1	5.29E-1	1.06E+2	1.77E+2	3.57E-1	7.79E+0	5.53E-2	-3.51E+1	1.50E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.05E+1	5.29E-1	1.06E+2	1.77E+2	3.57E-1	7.79E+0	5.53E-2	-3.51E+1	1.50E+2
PENRE	MJ	4.69E+3	4.49E+1	2.40E+1	4.76E+3	2.64E+1	1.68E+2	1.48E+0	-2.62E+3	2.34E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.69E+3	4.49E+1	2.40E+1	4.76E+3	2.64E+1	1.68E+2	1.48E+0	-2.62E+3	2.34E+3
PET	MJ	4.76E+3	4.54E+1	1.30E+2	4.94E+3	2.68E+1	1.76E+2	1.54E+0	-2.66E+3	2.49E+3
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.43E+0	5.15E-3	2.74E-1	1.71E+0	2.81E-3	9.12E-2	1.73E-3	-7.22E-1	1.08E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.81E-4	1.07E-4	3.95E-5	7.27E-4	6.36E-5	2.57E-4	1.68E-6	-7.14E-4	3.36E-4
NHWD	kg	3.96E+0	2.68E+0	4.89E-2	6.69E+0	1.54E+0	7.76E+0	6.16E+0	-1.98E+0	2.02E+1
RWD	kg	4.12E-3	2.78E-4	9.44E-5	4.49E-3	1.69E-4	6.03E-4	9.15E-6	-1.36E-3	3.91E-3
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777