Environmental Profile

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

Ecochain v3.5.64

Product:	3041821 - PE100 Pressure Pipe BK 90x8.2 L=50
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	2.15E+2	4.88E+0	4.46E+0	2.24E+2	2.82E+0	9.17E+1	1.56E+0	-1.41E+2	1.79E+2
GWP-f	kg CO2 eq	2.14E+2	4.87E+0	3.65E+0	2.22E+2	2.82E+0	9.18E+1	1.56E+0	-1.41E+2	1.78E+2
GWP-b	kg CO2 eq	1.05E+0	2.25E-3	3.79E-1	1.43E+0	1.71E-3	-1.13E-1	1.17E-3	-5.34E-1	7.85E-1
GWP-luluc	kg CO2 eq	6.39E-2	1.79E-3	4.27E-1	4.93E-1	9.97E-4	1.58E-2	2.24E-5	-3.20E-2	4.78E-1
ODP	kg CFC11 eq	1.17E-5	1.08E-6	4.77E-7	1.33E-5	6.49E-7	2.06E-6	3.33E-8	-6.75E-6	9.26E-6
AP	mol H+ eq	7.98E-1	2.83E-2	2.17E-2	8.48E-1	1.60E-2	8.66E-2	7.94E-4	-3.90E-1	5.61E-1
EP-fw	kg P eq	3.53E-3	4.92E-5	8.30E-5	3.66E-3	2.32E-5	4.56E-4	1.03E-6	-1.75E-3	2.38E-3
EP-m	kg N eq	1.33E-1	9.96E-3	4.44E-3	1.48E-1	5.74E-3	2.52E-2	5.62E-4	-7.13E-2	1.08E-1
EP-T	mol N eq	1.49E+0	1.10E-1	4.48E-2	1.64E+0	6.33E-2	2.77E-1	3.22E-3	-7.93E-1	1.19E+0
POCP	kg NMVOC eq	7.12E-1	3.14E-2	1.29E-2	7.56E-1	1.81E-2	8.76E-2	1.26E-3	-3.70E-1	4.94E-1
ADP-mm	kg Sb eq	1.92E-3	1.23E-4	1.09E-4	2.16E-3	7.29E-5	3.42E-4	7.97E-7	-9.10E-4	1.66E-3
ADP-f	MJ	7.61E+3	7.35E+1	4.29E+1	7.72E+3	4.32E+1	2.74E+2	2.43E+0	-4.22E+3	3.82E+3
WDP	m3 depriv.	1.64E+2	2.63E-1	2.47E+1	1.89E+2	1.33E-1	5.39E+0	1.11E-2	-8.20E+1	1.12E+2
PM	disease inc.	7.59E-6	4.38E-7	1.93E-7	8.23E-6	2.54E-7	1.42E-6	1.67E-8	-3.08E-6	6.84E-6
IR	kBq U-235 eq	6.56E+0	3.08E-1	1.15E-1	6.98E+0	1.89E-1	8.27E-1	1.13E-2	-2.55E+0	5.46E+0
ETP-fw	CTUe	1.37E+3	6.55E+1	1.06E+2	1.54E+3	3.51E+1	3.11E+2	2.14E+0	-6.13E+2	1.27E+3
HTP-c	CTUh	5.60E-8	2.13E-9	3.94E-9	6.20E-8	1.25E-9	3.70E-8	5.90E-11	-2.92E-8	7.11E-8
HTP-nc	CTUh	1.33E-6	7.17E-8	1.02E-7	1.50E-6	4.19E-8	4.67E-7	1.36E-9	-6.53E-7	1.36E-6
SQP	Pt	2.89E+2	6.38E+1	4.09E+0	3.57E+2	3.70E+1	2.19E+2	6.24E+0	-1.34E+2	4.85E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.22E+2	9.20E-1	2.30E+2	3.54E+2	6.20E-1	1.35E+1	9.62E-2	-6.11E+1	3.07E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.22E+2	9.20E-1	2.30E+2	3.54E+2	6.20E-1	1.35E+1	9.62E-2	-6.11E+1	3.07E+2
PENRE	MJ	8.16E+3	7.80E+1	4.58E+1	8.28E+3	4.59E+1	2.92E+2	2.58E+0	-4.56E+3	4.07E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.16E+3	7.80E+1	4.58E+1	8.28E+3	4.59E+1	2.92E+2	2.58E+0	-4.56E+3	4.07E+3
PET	MJ	8.28E+3	7.90E+1	2.76E+2	8.63E+3	4.65E+1	3.06E+2	2.68E+0	-4.62E+3	4.37E+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	2.48E+0	8.95E-3	5.87E-1	3.07E+0	4.89E-3	1.59E-1	3.00E-3	-1.25E+0	1.99E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.01E-3	1.86E-4	6.87E-5	1.27E-3	1.11E-4	4.47E-4	2.92E-6	-1.24E-3	5.85E-4
NHWD	kg	6.88E+0	4.66E+0	8.64E-2	1.16E+1	2.68E+0	1.35E+1	1.07E+1	-3.44E+0	3.51E+1
RWD	kg	7.16E-3	4.83E-4	1.64E-4	7.81E-3	2.94E-4	1.05E-3	1.59E-5	-2.37E-3	6.80E-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

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