Environmental Profile

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

Ecochain v3.5.64

Product:	3041211 - PE100 Pressure Pipe BK 90x5.4 L=100
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	2.95E+2	6.70E+0	6.28E+0	3.08E+2	3.87E+0	1.26E+2	2.14E+0	-1.94E+2	2.46E+2
GWP-f	kg CO2 eq	2.94E+2	6.70E+0	5.13E+0	3.06E+2	3.87E+0	1.26E+2	2.14E+0	-1.93E+2	2.44E+2
GWP-b	kg CO2 eq	1.44E+0	3.09E-3	5.42E-1	1.98E+0	2.35E-3	-1.55E-1	1.61E-3	-7.33E-1	1.10E+0
GWP-luluc	kg CO2 eq	8.78E-2	2.45E-3	6.11E-1	7.02E-1	1.37E-3	2.17E-2	3.08E-5	-4.40E-2	6.81E-1
ODP	kg CFC11 eq	1.61E-5	1.48E-6	6.61E-7	1.82E-5	8.92E-7	2.83E-6	4.57E-8	-9.28E-6	1.27E-5
AP	mol H+ eq	1.10E+0	3.88E-2	3.06E-2	1.17E+0	2.20E-2	1.19E-1	1.09E-3	-5.36E-1	7.72E-1
EP-fw	kg P eq	4.84E-3	6.75E-5	1.17E-4	5.03E-3	3.18E-5	6.27E-4	1.42E-6	-2.41E-3	3.28E-3
EP-m	kg N eq	1.83E-1	1.37E-2	6.19E-3	2.03E-1	7.89E-3	3.46E-2	7.72E-4	-9.79E-2	1.48E-1
EP-T	mol N eq	2.04E+0	1.51E-1	6.26E-2	2.26E+0	8.69E-2	3.81E-1	4.43E-3	-1.09E+0	1.64E+0
POCP	kg NMVOC eq	9.78E-1	4.31E-2	1.80E-2	1.04E+0	2.48E-2	1.20E-1	1.74E-3	-5.08E-1	6.79E-1
ADP-mm	kg Sb eq	2.64E-3	1.70E-4	1.55E-4	2.97E-3	1.00E-4	4.71E-4	1.10E-6	-1.25E-3	2.29E-3
ADP-f	MJ	1.04E+4	1.01E+2	6.00E+1	1.06E+4	5.94E+1	3.77E+2	3.34E+0	-5.80E+3	5.25E+3
WDP	m3 depriv.	2.25E+2	3.61E-1	3.53E+1	2.61E+2	1.82E-1	7.41E+0	1.53E-2	-1.13E+2	1.56E+2
PM	disease inc.	1.04E-5	6.01E-7	2.69E-7	1.13E-5	3.49E-7	1.96E-6	2.29E-8	-4.24E-6	9.40E-6
IR	kBq U-235 eq	9.01E+0	4.23E-1	1.58E-1	9.59E+0	2.60E-1	1.14E+0	1.56E-2	-3.50E+0	7.50E+0
ETP-fw	CTUe	1.88E+3	9.00E+1	1.50E+2	2.12E+3	4.82E+1	4.28E+2	2.94E+0	-8.43E+2	1.75E+3
HTP-c	CTUh	7.69E-8	2.92E-9	5.59E-9	8.54E-8	1.72E-9	5.08E-8	8.11E-11	-4.01E-8	9.79E-8
HTP-nc	CTUh	1.82E-6	9.85E-8	1.45E-7	2.07E-6	5.75E-8	6.42E-7	1.87E-9	-8.96E-7	1.87E-6
SQP	Pt	3.97E+2	8.76E+1	5.63E+0	4.90E+2	5.08E+1	3.01E+2	8.57E+0	-1.84E+2	6.66E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.68E+2	1.26E+0	3.30E+2	4.99E+2	8.52E-1	1.86E+1	1.32E-1	-8.39E+1	4.35E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.68E+2	1.26E+0	3.30E+2	4.99E+2	8.52E-1	1.86E+1	1.32E-1	-8.39E+1	4.35E+2
PENRE	MJ	1.12E+4	1.07E+2	6.41E+1	1.14E+4	6.31E+1	4.02E+2	3.54E+0	-6.26E+3	5.59E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.12E+4	1.07E+2	6.41E+1	1.14E+4	6.31E+1	4.02E+2	3.54E+0	-6.26E+3	5.59E+3
PET	MJ	1.14E+4	1.08E+2	3.94E+2	1.19E+4	6.39E+1	4.20E+2	3.68E+0	-6.34E+3	6.02E+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	3.40E+0	1.23E-2	8.38E-1	4.25E+0	6.72E-3	2.18E-1	4.13E-3	-1.72E+0	2.76E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.39E-3	2.56E-4	9.44E-5	1.74E-3	1.52E-4	6.14E-4	4.01E-6	-1.70E-3	8.03E-4
NHWD	kg	9.45E+0	6.41E+0	1.19E-1	1.60E+1	3.68E+0	1.85E+1	1.47E+1	-4.73E+0	4.82E+1
RWD	kg	9.84E-3	6.63E-4	2.26E-4	1.07E-2	4.04E-4	1.44E-3	2.18E-5	-3.25E-3	9.34E-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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