Environmental Profile

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

Ecochain v3.5.64

Product:	3041800 - PE100 Pressure Pipe BK 90x8.2 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	5.16E+1	1.17E+0	1.10E+0	5.39E+1	6.77E-1	2.20E+1	3.75E-1	-3.39E+1	4.30E+1
GWP-f	kg CO2 eq	5.13E+1	1.17E+0	8.98E-1	5.34E+1	6.76E-1	2.20E+1	3.75E-1	-3.38E+1	4.27E+1
GWP-b	kg CO2 eq	2.50E-1	5.40E-4	9.50E-2	3.45E-1	4.10E-4	-2.53E-2	2.81E-4	-1.28E-1	1.93E-1
GWP-luluc	kg CO2 eq	1.53E-2	4.29E-4	1.07E-1	1.23E-1	2.39E-4	3.80E-3	5.37E-6	-7.69E-3	1.19E-1
ODP	kg CFC11 eq	2.81E-6	2.58E-7	1.16E-7	3.19E-6	1.56E-7	4.94E-7	7.99E-9	-1.62E-6	2.22E-6
AP	mol H+ eq	1.92E-1	6.78E-3	5.36E-3	2.04E-1	3.85E-3	2.08E-2	1.91E-4	-9.36E-2	1.35E-1
EP-fw	kg P eq	8.47E-4	1.18E-5	2.05E-5	8.79E-4	5.56E-6	1.10E-4	2.48E-7	-4.21E-4	5.73E-4
EP-m	kg N eq	3.20E-2	2.39E-3	1.08E-3	3.55E-2	1.38E-3	6.05E-3	1.35E-4	-1.71E-2	2.60E-2
EP-T	mol N eq	3.57E-1	2.64E-2	1.10E-2	3.94E-1	1.52E-2	6.65E-2	7.74E-4	-1.90E-1	2.86E-1
POCP	kg NMVOC eq	1.71E-1	7.52E-3	3.16E-3	1.82E-1	4.34E-3	2.10E-2	3.03E-4	-8.87E-2	1.19E-1
ADP-mm	kg Sb eq	4.62E-4	2.96E-5	2.72E-5	5.18E-4	1.75E-5	8.22E-5	1.91E-7	-2.18E-4	4.00E-4
ADP-f	MJ	1.83E+3	1.76E+1	1.05E+1	1.85E+3	1.04E+1	6.59E+1	5.83E-1	-1.01E+3	9.17E+2
WDP	m3 depriv.	3.93E+1	6.31E-2	6.19E+0	4.56E+1	3.18E-2	1.29E+0	2.67E-3	-1.97E+1	2.72E+1
PM	disease inc.	1.82E-6	1.05E-7	4.71E-8	1.98E-6	6.10E-8	3.42E-7	4.01E-9	-7.40E-7	1.64E-6
IR	kBq U-235 eq	1.57E+0	7.39E-2	2.76E-2	1.68E+0	4.54E-2	1.98E-1	2.72E-3	-6.12E-1	1.31E+0
ETP-fw	CTUe	3.28E+2	1.57E+1	2.63E+1	3.70E+2	8.43E+0	7.48E+1	5.14E-1	-1.47E+2	3.07E+2
HTP-c	CTUh	1.34E-8	5.10E-10	9.79E-10	1.49E-8	3.00E-10	8.87E-9	1.42E-11	-7.00E-9	1.71E-8
HTP-nc	CTUh	3.19E-7	1.72E-8	2.54E-8	3.61E-7	1.00E-8	1.12E-7	3.27E-10	-1.57E-7	3.27E-7
SQP	Pt	6.94E+1	1.53E+1	9.84E-1	8.57E+1	8.88E+0	5.26E+1	1.50E+0	-3.22E+1	1.17E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.94E+1	2.21E-1	5.78E+1	8.74E+1	1.49E-1	3.25E+0	2.31E-2	-1.47E+1	7.62E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.94E+1	2.21E-1	5.78E+1	8.74E+1	1.49E-1	3.25E+0	2.31E-2	-1.47E+1	7.62E+1
PENRE	MJ	1.96E+3	1.87E+1	1.12E+1	1.99E+3	1.10E+1	7.02E+1	6.19E-1	-1.09E+3	9.76E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.96E+3	1.87E+1	1.12E+1	1.99E+3	1.10E+1	7.02E+1	6.19E-1	-1.09E+3	9.76E+2
PET	MJ	1.99E+3	1.90E+1	6.90E+1	2.08E+3	1.12E+1	7.34E+1	6.42E-1	-1.11E+3	1.05E+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	5.95E-1	2.15E-3	1.47E-1	7.44E-1	1.17E-3	3.81E-2	7.21E-4	-3.01E-1	4.83E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.42E-4	4.47E-5	1.65E-5	3.04E-4	2.65E-5	1.07E-4	7.00E-7	-2.98E-4	1.40E-4
NHWD	kg	1.65E+0	1.12E+0	2.08E-2	2.79E+0	6.43E-1	3.24E+0	2.57E+0	-8.26E-1	8.42E+0
RWD	kg	1.72E-3	1.16E-4	3.94E-5	1.87E-3	7.06E-5	2.51E-4	3.82E-6	-5.68E-4	1.63E-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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