Environmental Profile

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

Ecochain v3.5.64

Product:	3042402 - PE100 Pressure Pipe BK 280x16.6 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	3.35E+2	7.60E+0	6.98E+0	3.50E+2	4.39E+0	1.43E+2	2.43E+0	-2.20E+2	2.79E+2
GWP-f	kg CO2 eq	3.33E+2	7.60E+0	5.71E+0	3.47E+2	4.39E+0	1.43E+2	2.43E+0	-2.19E+2	2.77E+2
GWP-b	kg CO2 eq	1.63E+0	3.51E-3	5.95E-1	2.22E+0	2.67E-3	-1.67E-1	1.83E-3	-8.32E-1	1.23E+0
GWP-luluc	kg CO2 eq	9.96E-2	2.78E-3	6.70E-1	7.73E-1	1.55E-3	2.47E-2	3.49E-5	-4.99E-2	7.49E-1
ODP	kg CFC11 eq	1.83E-5	1.68E-6	7.44E-7	2.07E-5	1.01E-6	3.21E-6	5.19E-8	-1.05E-5	1.44E-5
AP	mol H+ eq	1.24E+0	4.41E-2	3.39E-2	1.32E+0	2.50E-2	1.35E-1	1.24E-3	-6.08E-1	8.75E-1
EP-fw	kg P eq	5.50E-3	7.66E-5	1.30E-4	5.70E-3	3.61E-5	7.12E-4	1.61E-6	-2.73E-3	3.72E-3
EP-m	kg N eq	2.08E-1	1.55E-2	6.94E-3	2.30E-1	8.95E-3	3.93E-2	8.76E-4	-1.11E-1	1.68E-1
EP-T	mol N eq	2.32E+0	1.71E-1	7.00E-2	2.56E+0	9.86E-2	4.32E-1	5.03E-3	-1.24E+0	1.86E+0
POCP	kg NMVOC eq	1.11E+0	4.89E-2	2.01E-2	1.18E+0	2.82E-2	1.37E-1	1.97E-3	-5.76E-1	7.70E-1
ADP-mm	kg Sb eq	3.00E-3	1.92E-4	1.70E-4	3.36E-3	1.14E-4	5.34E-4	1.24E-6	-1.42E-3	2.59E-3
ADP-f	MJ	1.19E+4	1.15E+2	6.70E+1	1.20E+4	6.74E+1	4.28E+2	3.79E+0	-6.58E+3	5.95E+3
WDP	m3 depriv.	2.55E+2	4.10E-1	3.87E+1	2.95E+2	2.07E-1	8.41E+0	1.74E-2	-1.28E+2	1.75E+2
PM	disease inc.	1.18E-5	6.82E-7	3.02E-7	1.28E-5	3.96E-7	2.22E-6	2.60E-8	-4.81E-6	1.07E-5
IR	kBq U-235 eq	1.02E+1	4.80E-1	1.79E-1	1.09E+1	2.95E-1	1.29E+0	1.77E-2	-3.97E+0	8.51E+0
ETP-fw	CTUe	2.13E+3	1.02E+2	1.66E+2	2.40E+3	5.47E+1	4.86E+2	3.34E+0	-9.56E+2	1.99E+3
HTP-c	CTUh	8.73E-8	3.31E-9	6.17E-9	9.67E-8	1.95E-9	5.76E-8	9.20E-11	-4.55E-8	1.11E-7
HTP-nc	CTUh	2.07E-6	1.12E-7	1.59E-7	2.34E-6	6.52E-8	7.28E-7	2.12E-9	-1.02E-6	2.12E-6
SQP	Pt	4.51E+2	9.94E+1	6.38E+0	5.56E+2	5.77E+1	3.42E+2	9.72E+0	-2.09E+2	7.57E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.91E+2	1.43E+0	3.61E+2	5.54E+2	9.67E-1	2.11E+1	1.50E-1	-9.52E+1	4.81E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.91E+2	1.43E+0	3.61E+2	5.54E+2	9.67E-1	2.11E+1	1.50E-1	-9.52E+1	4.81E+2
PENRE	MJ	1.27E+4	1.22E+2	7.16E+1	1.29E+4	7.16E+1	4.56E+2	4.02E+0	-7.10E+3	6.34E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.27E+4	1.22E+2	7.16E+1	1.29E+4	7.16E+1	4.56E+2	4.02E+0	-7.10E+3	6.34E+3
PET	MJ	1.29E+4	1.23E+2	4.33E+2	1.35E+4	7.25E+1	4.77E+2	4.17E+0	-7.20E+3	6.82E+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	3.86E+0	1.40E-2	9.20E-1	4.80E+0	7.63E-3	2.47E-1	4.68E-3	-1.95E+0	3.10E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.57E-3	2.90E-4	1.07E-4	1.97E-3	1.72E-4	6.97E-4	4.55E-6	-1.93E-3	9.10E-4
NHWD	kg	1.07E+1	7.27E+0	1.35E-1	1.81E+1	4.18E+0	2.10E+1	1.67E+1	-5.36E+0	5.47E+1
RWD	kg	1.12E-2	7.52E-4	2.56E-4	1.22E-2	4.58E-4	1.63E-3	2.48E-5	-3.69E-3	1.06E-2
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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