Environmental Profile

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

Ecochain v3.5.64

Product:	3020210 - PE100 Pressure Pipe BK 180x10.7 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	1.39E+2	3.16E+0	2.80E+0	1.45E+2	1.82E+0	5.93E+1	1.01E+0	-9.15E+1	1.16E+2
GWP-f	kg CO2 eq	1.38E+2	3.15E+0	2.31E+0	1.44E+2	1.82E+0	5.94E+1	1.01E+0	-9.11E+1	1.15E+2
GWP-b	kg CO2 eq	6.73E-1	1.46E-3	2.34E-1	9.08E-1	1.11E-3	-6.71E-2	7.58E-4	-3.45E-1	4.98E-1
GWP-luluc	kg CO2 eq	4.14E-2	1.16E-3	2.64E-1	3.06E-1	6.45E-4	1.02E-2	1.45E-5	-2.07E-2	2.96E-1
ODP	kg CFC11 eq	7.58E-6	6.96E-7	3.05E-7	8.59E-6	4.20E-7	1.33E-6	2.15E-8	-4.37E-6	5.99E-6
AP	mol H+ eq	5.16E-1	1.83E-2	1.36E-2	5.48E-1	1.04E-2	5.60E-2	5.14E-4	-2.52E-1	3.63E-1
EP-fw	kg P eq	2.28E-3	3.18E-5	5.22E-5	2.37E-3	1.50E-5	2.95E-4	6.67E-7	-1.14E-3	1.54E-3
EP-m	kg N eq	8.64E-2	6.45E-3	2.82E-3	9.56E-2	3.71E-3	1.63E-2	3.64E-4	-4.61E-2	6.99E-2
EP-T	mol N eq	9.62E-1	7.11E-2	2.84E-2	1.06E+0	4.09E-2	1.79E-1	2.09E-3	-5.13E-1	7.71E-1
POCP	kg NMVOC eq	4.61E-1	2.03E-2	8.17E-3	4.89E-1	1.17E-2	5.67E-2	8.18E-4	-2.39E-1	3.19E-1
ADP-mm	kg Sb eq	1.24E-3	7.99E-5	6.71E-5	1.39E-3	4.72E-5	2.22E-4	5.16E-7	-5.89E-4	1.07E-3
ADP-f	MJ	4.92E+3	4.76E+1	2.72E+1	5.00E+3	2.80E+1	1.78E+2	1.57E+0	-2.73E+3	2.47E+3
WDP	m3 depriv.	1.06E+2	1.70E-1	1.53E+1	1.22E+2	8.59E-2	3.49E+0	7.21E-3	-5.31E+1	7.20E+1
PM	disease inc.	4.92E-6	2.83E-7	1.23E-7	5.32E-6	1.65E-7	9.22E-7	1.08E-8	-2.00E-6	4.42E-6
IR	kBq U-235 eq	4.25E+0	1.99E-1	7.38E-2	4.52E+0	1.22E-1	5.35E-1	7.33E-3	-1.65E+0	3.53E+0
ETP-fw	CTUe	8.85E+2	4.24E+1	6.61E+1	9.93E+2	2.27E+1	2.02E+2	1.39E+0	-3.97E+2	8.22E+2
HTP-c	CTUh	3.62E-8	1.38E-9	2.46E-9	4.01E-8	8.08E-10	2.39E-8	3.82E-11	-1.89E-8	4.59E-8
HTP-nc	CTUh	8.59E-7	4.64E-8	6.30E-8	9.69E-7	2.71E-8	3.02E-7	8.82E-10	-4.22E-7	8.77E-7
SQP	Pt	1.87E+2	4.13E+1	2.64E+0	2.31E+2	2.39E+1	1.42E+2	4.04E+0	-8.68E+1	3.14E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.93E+1	5.95E-1	1.42E+2	2.22E+2	4.01E-1	8.76E+0	6.23E-2	-3.95E+1	1.92E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.93E+1	5.95E-1	1.42E+2	2.22E+2	4.01E-1	8.76E+0	6.23E-2	-3.95E+1	1.92E+2
PENRE	MJ	5.28E+3	5.05E+1	2.90E+1	5.36E+3	2.97E+1	1.89E+2	1.67E+0	-2.95E+3	2.63E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.28E+3	5.05E+1	2.90E+1	5.36E+3	2.97E+1	1.89E+2	1.67E+0	-2.95E+3	2.63E+3
PET	MJ	5.36E+3	5.11E+1	1.71E+2	5.58E+3	3.01E+1	1.98E+2	1.73E+0	-2.99E+3	2.82E+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	1.60E+0	5.79E-3	3.63E-1	1.97E+0	3.17E-3	1.03E-1	1.94E-3	-8.12E-1	1.27E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.53E-4	1.21E-4	4.44E-5	8.18E-4	7.15E-5	2.89E-4	1.89E-6	-8.03E-4	3.78E-4
NHWD	kg	4.45E+0	3.02E+0	5.57E-2	7.53E+0	1.73E+0	8.73E+0	6.93E+0	-2.23E+0	2.27E+1
RWD	kg	4.63E-3	3.12E-4	1.06E-4	5.05E-3	1.90E-4	6.78E-4	1.03E-5	-1.53E-3	4.40E-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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