Environmental Profile

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

Ecochain v3.5.64

Product:	3020209 - PE100 Pressure Pipe BK 315x18.7 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	4.25E+2	9.63E+0	9.08E+0	4.44E+2	5.56E+0	1.82E+2	3.08E+0	-2.79E+2	3.55E+2
GWP-f	kg CO2 eq	4.23E+2	9.63E+0	7.41E+0	4.40E+2	5.56E+0	1.82E+2	3.08E+0	-2.78E+2	3.52E+2
GWP-b	kg CO2 eq	2.04E+0	4.44E-3	7.86E-1	2.83E+0	3.38E-3	-2.10E-1	2.31E-3	-1.05E+0	1.57E+0
GWP-luluc	kg CO2 eq	1.27E-1	3.53E-3	8.87E-1	1.02E+0	1.97E-3	3.12E-2	4.42E-5	-6.33E-2	9.88E-1
ODP	kg CFC11 eq	2.32E-5	2.12E-6	9.52E-7	2.63E-5	1.28E-6	4.07E-6	6.57E-8	-1.34E-5	1.83E-5
AP	mol H+ eq	1.58E+0	5.58E-2	4.43E-2	1.68E+0	3.17E-2	1.71E-1	1.57E-3	-7.70E-1	1.11E+0
EP-fw	kg P eq	7.00E-3	9.71E-5	1.69E-4	7.26E-3	4.57E-5	9.01E-4	2.04E-6	-3.46E-3	4.75E-3
EP-m	kg N eq	2.64E-1	1.97E-2	8.93E-3	2.93E-1	1.13E-2	4.98E-2	1.11E-3	-1.41E-1	2.14E-1
EP-T	mol N eq	2.94E+0	2.17E-1	9.04E-2	3.25E+0	1.25E-1	5.48E-1	6.37E-3	-1.57E+0	2.36E+0
POCP	kg NMVOC eq	1.41E+0	6.19E-2	2.60E-2	1.50E+0	3.57E-2	1.73E-1	2.50E-3	-7.30E-1	9.79E-1
ADP-mm	kg Sb eq	3.80E-3	2.44E-4	2.25E-4	4.27E-3	1.44E-4	6.76E-4	1.57E-6	-1.80E-3	3.30E-3
ADP-f	MJ	1.50E+4	1.45E+2	8.66E+1	1.53E+4	8.53E+1	5.42E+2	4.80E+0	-8.34E+3	7.56E+3
WDP	m3 depriv.	3.24E+2	5.19E-1	5.12E+1	3.76E+2	2.62E-1	1.06E+1	2.20E-2	-1.62E+2	2.25E+2
PM	disease inc.	1.50E-5	8.64E-7	3.88E-7	1.63E-5	5.02E-7	2.81E-6	3.30E-8	-6.09E-6	1.35E-5
IR	kBq U-235 eq	1.30E+1	6.08E-1	2.27E-1	1.38E+1	3.73E-1	1.63E+0	2.24E-2	-5.03E+0	1.08E+1
ETP-fw	CTUe	2.71E+3	1.29E+2	2.17E+2	3.06E+3	6.93E+1	6.15E+2	4.23E+0	-1.21E+3	2.54E+3
HTP-c	CTUh	1.11E-7	4.20E-9	8.09E-9	1.23E-7	2.47E-9	7.30E-8	1.17E-10	-5.76E-8	1.41E-7
HTP-nc	CTUh	2.63E-6	1.42E-7	2.10E-7	2.98E-6	8.26E-8	9.23E-7	2.69E-9	-1.29E-6	2.70E-6
SQP	Pt	5.74E+2	1.26E+2	8.09E+0	7.08E+2	7.30E+1	4.33E+2	1.23E+1	-2.65E+2	9.62E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.43E+2	1.82E+0	4.78E+2	7.23E+2	1.22E+0	2.67E+1	1.90E-1	-1.21E+2	6.31E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.43E+2	1.82E+0	4.78E+2	7.23E+2	1.22E+0	2.67E+1	1.90E-1	-1.21E+2	6.31E+2
PENRE	MJ	1.61E+4	1.54E+2	9.25E+1	1.64E+4	9.06E+1	5.77E+2	5.09E+0	-9.00E+3	8.05E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.61E+4	1.54E+2	9.25E+1	1.64E+4	9.06E+1	5.77E+2	5.09E+0	-9.00E+3	8.05E+3
PET	MJ	1.64E+4	1.56E+2	5.71E+2	1.71E+4	9.18E+1	6.04E+2	5.28E+0	-9.12E+3	8.68E+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	4.91E+0	1.77E-2	1.22E+0	6.14E+0	9.66E-3	3.13E-1	5.93E-3	-2.48E+0	3.99E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.01E-3	3.68E-4	1.36E-4	2.51E-3	2.18E-4	8.83E-4	5.76E-6	-2.46E-3	1.16E-3
NHWD	kg	1.37E+1	9.21E+0	1.71E-1	2.30E+1	5.29E+0	2.67E+1	2.11E+1	-6.80E+0	6.93E+1
RWD	kg	1.42E-2	9.53E-4	3.24E-4	1.54E-2	5.80E-4	2.07E-3	3.14E-5	-4.68E-3	1.34E-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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