Environmental Profile

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

Ecochain v3.5.64

Product:	3041822 - PE100 Pressure Pipe BK 110x6.6 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	5.28E+1	1.20E+0	1.15E+0	5.52E+1	6.92E-1	2.25E+1	3.83E-1	-3.47E+1	4.40E+1
GWP-f	kg CO2 eq	5.26E+1	1.20E+0	9.35E-1	5.47E+1	6.92E-1	2.25E+1	3.83E-1	-3.46E+1	4.37E+1
GWP-b	kg CO2 eq	2.55E-1	5.53E-4	1.00E-1	3.56E-1	4.20E-4	-2.56E-2	2.88E-4	-1.31E-1	2.00E-1
GWP-luluc	kg CO2 eq	1.57E-2	4.39E-4	1.13E-1	1.30E-1	2.45E-4	3.89E-3	5.50E-6	-7.87E-3	1.26E-1
ODP	kg CFC11 eq	2.88E-6	2.64E-7	1.19E-7	3.26E-6	1.59E-7	5.06E-7	8.18E-9	-1.66E-6	2.28E-6
AP	mol H+ eq	1.96E-1	6.94E-3	5.61E-3	2.09E-1	3.94E-3	2.13E-2	1.95E-4	-9.58E-2	1.38E-1
EP-fw	kg P eq	8.67E-4	1.21E-5	2.14E-5	9.01E-4	5.69E-6	1.12E-4	2.53E-7	-4.31E-4	5.88E-4
EP-m	kg N eq	3.28E-2	2.45E-3	1.12E-3	3.64E-2	1.41E-3	6.19E-3	1.38E-4	-1.75E-2	2.66E-2
EP-T	mol N eq	3.65E-1	2.70E-2	1.14E-2	4.04E-1	1.55E-2	6.81E-2	7.92E-4	-1.95E-1	2.93E-1
POCP	kg NMVOC eq	1.75E-1	7.70E-3	3.28E-3	1.86E-1	4.44E-3	2.15E-2	3.11E-4	-9.08E-2	1.21E-1
ADP-mm	kg Sb eq	4.72E-4	3.03E-5	2.88E-5	5.31E-4	1.79E-5	8.41E-5	1.96E-7	-2.23E-4	4.10E-4
ADP-f	MJ	1.87E+3	1.81E+1	1.09E+1	1.90E+3	1.06E+1	6.74E+1	5.97E-1	-1.04E+3	9.39E+2
WDP	m3 depriv.	4.03E+1	6.46E-2	6.54E+0	4.69E+1	3.26E-2	1.32E+0	2.73E-3	-2.02E+1	2.81E+1
PM	disease inc.	1.87E-6	1.08E-7	4.88E-8	2.02E-6	6.24E-8	3.50E-7	4.10E-9	-7.57E-7	1.68E-6
IR	kBq U-235 eq	1.61E+0	7.56E-2	2.84E-2	1.72E+0	4.64E-2	2.03E-1	2.78E-3	-6.26E-1	1.34E+0
ETP-fw	CTUe	3.36E+2	1.61E+1	2.76E+1	3.80E+2	8.62E+0	7.65E+1	5.26E-1	-1.51E+2	3.15E+2
HTP-c	CTUh	1.38E-8	5.22E-10	1.03E-9	1.53E-8	3.07E-10	9.08E-9	1.45E-11	-7.17E-9	1.75E-8
HTP-nc	CTUh	3.26E-7	1.76E-8	2.67E-8	3.71E-7	1.03E-8	1.15E-7	3.35E-10	-1.60E-7	3.36E-7
SQP	Pt	7.11E+1	1.57E+1	1.01E+0	8.78E+1	9.09E+0	5.39E+1	1.53E+0	-3.29E+1	1.19E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.01E+1	2.26E-1	6.12E+1	9.15E+1	1.52E-1	3.33E+0	2.36E-2	-1.50E+1	8.00E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.01E+1	2.26E-1	6.12E+1	9.15E+1	1.52E-1	3.33E+0	2.36E-2	-1.50E+1	8.00E+1
PENRE	MJ	2.00E+3	1.92E+1	1.17E+1	2.03E+3	1.13E+1	7.18E+1	6.33E-1	-1.12E+3	9.99E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.00E+3	1.92E+1	1.17E+1	2.03E+3	1.13E+1	7.18E+1	6.33E-1	-1.12E+3	9.99E+2
PET	MJ	2.03E+3	1.94E+1	7.28E+1	2.13E+3	1.14E+1	7.52E+1	6.57E-1	-1.13E+3	1.08E+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	6.10E-1	2.20E-3	1.55E-1	7.67E-1	1.20E-3	3.90E-2	7.38E-4	-3.08E-1	5.00E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.48E-4	4.58E-5	1.69E-5	3.11E-4	2.72E-5	1.10E-4	7.17E-7	-3.05E-4	1.43E-4
NHWD	kg	1.69E+0	1.15E+0	2.14E-2	2.86E+0	6.58E-1	3.31E+0	2.63E+0	-8.45E-1	8.61E+0
RWD	kg	1.76E-3	1.19E-4	4.03E-5	1.92E-3	7.22E-5	2.57E-4	3.90E-6	-5.81E-4	1.67E-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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