Environmental Profile

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

Ecochain v3.5.64

Product:	3041638 - PE100 Pressure Pipe BK 63x3.8 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	1.76E+1	3.98E-1	3.78E-1	1.83E+1	2.30E-1	7.49E+0	1.27E-1	-1.15E+1	1.46E+1
GWP-f	kg CO2 eq	1.75E+1	3.98E-1	3.08E-1	1.82E+1	2.30E-1	7.50E+0	1.27E-1	-1.15E+1	1.45E+1
GWP-b	kg CO2 eq	8.48E-2	1.84E-4	3.29E-2	1.18E-1	1.40E-4	-8.42E-3	9.57E-5	-4.36E-2	6.61E-2
GWP-luluc	kg CO2 eq	5.23E-3	1.46E-4	3.71E-2	4.25E-2	8.14E-5	1.29E-3	1.83E-6	-2.62E-3	4.12E-2
ODP	kg CFC11 eq	9.58E-7	8.79E-8	3.95E-8	1.08E-6	5.30E-8	1.68E-7	2.72E-9	-5.52E-7	7.57E-7
AP	mol H+ eq	6.52E-2	2.31E-3	1.84E-3	6.94E-2	1.31E-3	7.07E-3	6.49E-5	-3.18E-2	4.60E-2
EP-fw	kg P eq	2.89E-4	4.01E-6	7.05E-6	3.00E-4	1.89E-6	3.73E-5	8.42E-8	-1.43E-4	1.96E-4
EP-m	kg N eq	1.09E-2	8.13E-4	3.71E-4	1.21E-2	4.69E-4	2.06E-3	4.59E-5	-5.82E-3	8.86E-3
EP-T	mol N eq	1.22E-1	8.97E-3	3.76E-3	1.34E-1	5.17E-3	2.26E-2	2.63E-4	-6.48E-2	9.76E-2
POCP	kg NMVOC eq	5.82E-2	2.56E-3	1.08E-3	6.19E-2	1.48E-3	7.16E-3	1.03E-4	-3.02E-2	4.04E-2
ADP-mm	kg Sb eq	1.57E-4	1.01E-5	9.42E-6	1.77E-4	5.95E-6	2.80E-5	6.51E-8	-7.43E-5	1.36E-4
ADP-f	MJ	6.21E+2	6.00E+0	3.60E+0	6.31E+2	3.53E+0	2.24E+1	1.99E-1	-3.45E+2	3.12E+2
WDP	m3 depriv.	1.34E+1	2.15E-2	2.14E+0	1.56E+1	1.08E-2	4.40E-1	9.09E-4	-6.70E+0	9.31E+0
PM	disease inc.	6.21E-7	3.57E-8	1.61E-8	6.73E-7	2.08E-8	1.16E-7	1.36E-9	-2.52E-7	5.59E-7
IR	kBq U-235 eq	5.36E-1	2.52E-2	9.42E-3	5.71E-1	1.54E-2	6.75E-2	9.25E-4	-2.08E-1	4.46E-1
ETP-fw	CTUe	1.12E+2	5.35E+0	9.06E+0	1.26E+2	2.87E+0	2.54E+1	1.75E-1	-5.01E+1	1.05E+2
HTP-c	CTUh	4.58E-9	1.74E-10	3.38E-10	5.09E-9	1.02E-10	3.02E-9	4.82E-12	-2.38E-9	5.83E-9
HTP-nc	CTUh	1.09E-7	5.86E-9	8.76E-9	1.23E-7	3.42E-9	3.82E-8	1.11E-10	-5.33E-8	1.12E-7
SQP	Pt	2.37E+1	5.21E+0	3.35E-1	2.92E+1	3.02E+0	1.79E+1	5.09E-1	-1.10E+1	3.97E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.00E+1	7.52E-2	2.00E+1	3.01E+1	5.07E-2	1.11E+0	7.86E-3	-4.99E+0	2.63E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.00E+1	7.52E-2	2.00E+1	3.01E+1	5.07E-2	1.11E+0	7.86E-3	-4.99E+0	2.63E+1
PENRE	MJ	6.66E+2	6.37E+0	3.85E+0	6.77E+2	3.75E+0	2.39E+1	2.11E-1	-3.72E+2	3.32E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.66E+2	6.37E+0	3.85E+0	6.77E+2	3.75E+0	2.39E+1	2.11E-1	-3.72E+2	3.32E+2
PET	MJ	6.77E+2	6.45E+0	2.39E+1	7.07E+2	3.80E+0	2.50E+1	2.18E-1	-3.77E+2	3.59E+2
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	2.03E-1	7.31E-4	5.08E-2	2.54E-1	4.00E-4	1.30E-2	2.45E-4	-1.02E-1	1.66E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.26E-5	1.52E-5	5.61E-6	1.03E-4	9.03E-6	3.65E-5	2.38E-7	-1.01E-4	4.77E-5
NHWD	kg	5.62E-1	3.81E-1	7.09E-3	9.50E-1	2.19E-1	1.10E+0	8.75E-1	-2.81E-1	2.86E+0
RWD	kg	5.85E-4	3.94E-5	1.34E-5	6.38E-4	2.40E-5	8.55E-5	1.30E-6	-1.93E-4	5.55E-4
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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