Environmental Profile

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

Ecochain v3.5.64

Product:	3041789 - PE100 Pressure Pipe BK 63x3.8 L=50
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	7.31E+1	1.66E+0	1.71E+0	7.65E+1	9.59E-1	3.12E+1	5.31E-1	-4.81E+1	6.11E+1
GWP-f	kg CO2 eq	7.28E+1	1.66E+0	1.38E+0	7.58E+1	9.58E-1	3.12E+1	5.31E-1	-4.79E+1	6.06E+1
GWP-b	kg CO2 eq	3.56E-1	7.65E-4	1.56E-1	5.12E-1	5.82E-4	-3.83E-2	3.99E-4	-1.82E-1	2.93E-1
GWP-luluc	kg CO2 eq	2.18E-2	6.08E-4	1.76E-1	1.99E-1	3.39E-4	5.38E-3	7.62E-6	-1.09E-2	1.94E-1
ODP	kg CFC11 eq	3.99E-6	3.66E-7	1.70E-7	4.53E-6	2.21E-7	7.01E-7	1.13E-8	-2.30E-6	3.16E-6
AP	mol H+ eq	2.72E-1	9.62E-3	8.40E-3	2.90E-1	5.46E-3	2.95E-2	2.70E-4	-1.33E-1	1.92E-1
EP-fw	kg P eq	1.20E-3	1.67E-5	3.19E-5	1.25E-3	7.88E-6	1.55E-4	3.51E-7	-5.97E-4	8.15E-4
EP-m	kg N eq	4.54E-2	3.39E-3	1.63E-3	5.04E-2	1.95E-3	8.57E-3	1.91E-4	-2.42E-2	3.69E-2
EP-T	mol N eq	5.06E-1	3.74E-2	1.67E-2	5.60E-1	2.15E-2	9.43E-2	1.10E-3	-2.70E-1	4.07E-1
POCP	kg NMVOC eq	2.42E-1	1.07E-2	4.80E-3	2.58E-1	6.15E-3	2.98E-2	4.30E-4	-1.26E-1	1.68E-1
ADP-mm	kg Sb eq	6.55E-4	4.20E-5	4.46E-5	7.41E-4	2.48E-5	1.17E-4	2.71E-7	-3.10E-4	5.73E-4
ADP-f	MJ	2.59E+3	2.50E+1	1.60E+1	2.63E+3	1.47E+1	9.34E+1	8.27E-1	-1.44E+3	1.30E+3
WDP	m3 depriv.	5.57E+1	8.95E-2	1.01E+1	6.59E+1	4.51E-2	1.83E+0	3.79E-3	-2.79E+1	3.99E+1
PM	disease inc.	2.58E-6	1.49E-7	7.09E-8	2.80E-6	8.65E-8	4.85E-7	5.68E-9	-1.05E-6	2.33E-6
IR	kBq U-235 eq	2.23E+0	1.05E-1	3.99E-2	2.38E+0	6.43E-2	2.81E-1	3.85E-3	-8.67E-1	1.86E+0
ETP-fw	CTUe	4.66E+2	2.23E+1	4.18E+1	5.30E+2	1.19E+1	1.06E+2	7.29E-1	-2.09E+2	4.40E+2
HTP-c	CTUh	1.90E-8	7.23E-10	1.56E-9	2.13E-8	4.25E-10	1.26E-8	2.01E-11	-9.93E-9	2.44E-8
HTP-nc	CTUh	4.52E-7	2.44E-8	4.11E-8	5.17E-7	1.42E-8	1.59E-7	4.63E-10	-2.22E-7	4.69E-7
SQP	Pt	9.83E+1	2.17E+1	1.41E+0	1.21E+2	1.26E+1	7.46E+1	2.12E+0	-4.56E+1	1.65E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.17E+1	3.13E-1	9.51E+1	1.37E+2	2.11E-1	4.61E+0	3.27E-2	-2.08E+1	1.21E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.17E+1	3.13E-1	9.51E+1	1.37E+2	2.11E-1	4.61E+0	3.27E-2	-2.08E+1	1.21E+2
PENRE	MJ	2.78E+3	2.66E+1	1.71E+1	2.82E+3	1.56E+1	9.95E+1	8.77E-1	-1.55E+3	1.38E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.78E+3	2.66E+1	1.71E+1	2.82E+3	1.56E+1	9.95E+1	8.77E-1	-1.55E+3	1.38E+3
PET	MJ	2.82E+3	2.69E+1	1.12E+2	2.96E+3	1.58E+1	1.04E+2	9.10E-1	-1.57E+3	1.51E+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	8.43E-1	3.05E-3	2.40E-1	1.09E+0	1.66E-3	5.40E-2	1.02E-3	-4.27E-1	7.16E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.44E-4	6.34E-5	2.34E-5	4.31E-4	3.76E-5	1.52E-4	9.93E-7	-4.22E-4	1.99E-4
NHWD	kg	2.34E+0	1.59E+0	2.99E-2	3.96E+0	9.12E-1	4.59E+0	3.64E+0	-1.17E+0	1.19E+1
RWD	kg	2.44E-3	1.64E-4	5.58E-5	2.66E-3	1.00E-4	3.56E-4	5.41E-6	-8.05E-4	2.31E-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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