Environmental Profile

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

Ecochain v3.5.64

Product:	3041791 - PE100 Pressure Pipe BK 63x5.8 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	1.06E+2	2.42E+0	2.75E+0	1.12E+2	1.40E+0	4.54E+1	7.73E-1	-7.00E+1	8.92E+1
GWP-f	kg CO2 eq	1.06E+2	2.41E+0	2.19E+0	1.11E+2	1.40E+0	4.55E+1	7.73E-1	-6.97E+1	8.84E+1
GWP-b	kg CO2 eq	5.18E-1	1.11E-3	2.61E-1	7.80E-1	8.47E-4	-5.58E-2	5.80E-4	-2.64E-1	4.61E-1
GWP-luluc	kg CO2 eq	3.17E-2	8.85E-4	2.97E-1	3.29E-1	4.94E-4	7.84E-3	1.11E-5	-1.59E-2	3.22E-1
ODP	kg CFC11 eq	5.81E-6	5.33E-7	2.58E-7	6.60E-6	3.22E-7	1.02E-6	1.65E-8	-3.35E-6	4.61E-6
AP	mol H+ eq	3.95E-1	1.40E-2	1.36E-2	4.23E-1	7.95E-3	4.29E-2	3.93E-4	-1.93E-1	2.81E-1
EP-fw	kg P eq	1.75E-3	2.44E-5	5.13E-5	1.82E-3	1.15E-5	2.26E-4	5.11E-7	-8.69E-4	1.19E-3
EP-m	kg N eq	6.61E-2	4.93E-3	2.53E-3	7.35E-2	2.84E-3	1.25E-2	2.78E-4	-3.53E-2	5.38E-2
EP-T	mol N eq	7.36E-1	5.44E-2	2.61E-2	8.17E-1	3.13E-2	1.37E-1	1.60E-3	-3.93E-1	5.94E-1
POCP	kg NMVOC eq	3.53E-1	1.55E-2	7.52E-3	3.76E-1	8.96E-3	4.34E-2	6.26E-4	-1.83E-1	2.46E-1
ADP-mm	kg Sb eq	9.53E-4	6.12E-5	7.47E-5	1.09E-3	3.61E-5	1.70E-4	3.95E-7	-4.51E-4	8.44E-4
ADP-f	MJ	3.77E+3	3.64E+1	2.50E+1	3.83E+3	2.14E+1	1.36E+2	1.20E+0	-2.09E+3	1.90E+3
WDP	m3 depriv.	8.12E+1	1.30E-1	1.69E+1	9.82E+1	6.57E-2	2.67E+0	5.52E-3	-4.06E+1	6.03E+1
PM	disease inc.	3.76E-6	2.17E-7	1.10E-7	4.09E-6	1.26E-7	7.06E-7	8.27E-9	-1.53E-6	3.40E-6
IR	kBq U-235 eq	3.25E+0	1.53E-1	5.92E-2	3.46E+0	9.36E-2	4.10E-1	5.61E-3	-1.26E+0	2.71E+0
ETP-fw	CTUe	6.78E+2	3.25E+1	6.84E+1	7.78E+2	1.74E+1	1.54E+2	1.06E+0	-3.04E+2	6.47E+2
HTP-c	CTUh	2.77E-8	1.05E-9	2.57E-9	3.13E-8	6.19E-10	1.83E-8	2.92E-11	-1.45E-8	3.59E-8
HTP-nc	CTUh	6.58E-7	3.55E-8	6.81E-8	7.61E-7	2.07E-8	2.31E-7	6.75E-10	-3.23E-7	6.91E-7
SQP	Pt	1.43E+2	3.16E+1	2.07E+0	1.77E+2	1.83E+1	1.09E+2	3.09E+0	-6.63E+1	2.40E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.07E+1	4.56E-1	1.60E+2	2.21E+2	3.07E-1	6.71E+0	4.77E-2	-3.03E+1	1.98E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.07E+1	4.56E-1	1.60E+2	2.21E+2	3.07E-1	6.71E+0	4.77E-2	-3.03E+1	1.98E+2
PENRE	MJ	4.04E+3	3.87E+1	2.68E+1	4.11E+3	2.27E+1	1.45E+2	1.28E+0	-2.26E+3	2.02E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.04E+3	3.87E+1	2.68E+1	4.11E+3	2.27E+1	1.45E+2	1.28E+0	-2.26E+3	2.02E+3
PET	MJ	4.10E+3	3.91E+1	1.87E+2	4.33E+3	2.30E+1	1.52E+2	1.33E+0	-2.29E+3	2.22E+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	1.23E+0	4.43E-3	4.01E-1	1.63E+0	2.42E-3	7.86E-2	1.49E-3	-6.21E-1	1.09E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.01E-4	9.23E-5	3.40E-5	6.27E-4	5.48E-5	2.21E-4	1.45E-6	-6.15E-4	2.90E-4
NHWD	kg	3.41E+0	2.31E+0	4.42E-2	5.76E+0	1.33E+0	6.68E+0	5.31E+0	-1.70E+0	1.74E+1
RWD	kg	3.55E-3	2.39E-4	8.13E-5	3.87E-3	1.46E-4	5.19E-4	7.87E-6	-1.17E-3	3.37E-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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