Environmental Profile

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

Ecochain v3.5.64

Product:	3015298 - PE100 Pressure Pipe BK 355x32.2 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	7.93E+2	1.80E+1	1.65E+1	8.27E+2	1.04E+1	3.38E+2	5.76E+0	-5.21E+2	6.60E+2
GWP-f	kg CO2 eq	7.89E+2	1.80E+1	1.35E+1	8.20E+2	1.04E+1	3.38E+2	5.76E+0	-5.19E+2	6.56E+2
GWP-b	kg CO2 eq	3.86E+0	8.30E-3	1.41E+0	5.27E+0	6.31E-3	-4.04E-1	4.32E-3	-1.97E+0	2.91E+0
GWP-luluc	kg CO2 eq	2.36E-1	6.59E-3	1.59E+0	1.83E+0	3.68E-3	5.84E-2	8.26E-5	-1.18E-1	1.77E+0
ODP	kg CFC11 eq	4.32E-5	3.97E-6	1.76E-6	4.90E-5	2.39E-6	7.60E-6	1.23E-7	-2.49E-5	3.42E-5
AP	mol H+ eq	2.94E+0	1.04E-1	8.03E-2	3.13E+0	5.92E-2	3.19E-1	2.93E-3	-1.44E+0	2.07E+0
EP-fw	kg P eq	1.30E-2	1.81E-4	3.07E-4	1.35E-2	8.55E-5	1.68E-3	3.81E-6	-6.47E-3	8.80E-3
EP-m	kg N eq	4.92E-1	3.67E-2	1.64E-2	5.45E-1	2.12E-2	9.29E-2	2.07E-3	-2.63E-1	3.99E-1
EP-T	mol N eq	5.48E+0	4.05E-1	1.66E-1	6.05E+0	2.33E-1	1.02E+0	1.19E-2	-2.93E+0	4.40E+0
POCP	kg NMVOC eq	2.63E+0	1.16E-1	4.77E-2	2.79E+0	6.67E-2	3.23E-1	4.66E-3	-1.36E+0	1.82E+0
ADP-mm	kg Sb eq	7.09E-3	4.56E-4	4.03E-4	7.95E-3	2.69E-4	1.26E-3	2.94E-6	-3.36E-3	6.13E-3
ADP-f	MJ	2.81E+4	2.71E+2	1.59E+2	2.85E+4	1.60E+2	1.01E+3	8.97E+0	-1.56E+4	1.41E+4
WDP	m3 depriv.	6.04E+2	9.70E-1	9.16E+1	6.97E+2	4.90E-1	1.99E+1	4.11E-2	-3.03E+2	4.15E+2
PM	disease inc.	2.80E-5	1.61E-6	7.13E-7	3.03E-5	9.38E-7	5.26E-6	6.16E-8	-1.14E-5	2.52E-5
IR	kBq U-235 eq	2.42E+1	1.14E+0	4.23E-1	2.58E+1	6.97E-1	3.05E+0	4.18E-2	-9.40E+0	2.01E+1
ETP-fw	CTUe	5.04E+3	2.42E+2	3.92E+2	5.68E+3	1.30E+2	1.15E+3	7.91E+0	-2.26E+3	4.70E+3
HTP-c	CTUh	2.06E-7	7.84E-9	1.46E-8	2.29E-7	4.61E-9	1.36E-7	2.18E-10	-1.08E-7	2.62E-7
HTP-nc	CTUh	4.90E-6	2.65E-7	3.77E-7	5.54E-6	1.54E-7	1.72E-6	5.03E-9	-2.41E-6	5.02E-6
SQP	Pt	1.07E+3	2.35E+2	1.51E+1	1.32E+3	1.36E+2	8.09E+2	2.30E+1	-4.94E+2	1.79E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.52E+2	3.40E+0	8.54E+2	1.31E+3	2.29E+0	5.00E+1	3.55E-1	-2.25E+2	1.14E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.52E+2	3.40E+0	8.54E+2	1.31E+3	2.29E+0	5.00E+1	3.55E-1	-2.25E+2	1.14E+3
PENRE	MJ	3.01E+4	2.88E+2	1.69E+2	3.06E+4	1.69E+2	1.08E+3	9.52E+0	-1.68E+4	1.50E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.01E+4	2.88E+2	1.69E+2	3.06E+4	1.69E+2	1.08E+3	9.52E+0	-1.68E+4	1.50E+4
PET	MJ	3.05E+4	2.91E+2	1.02E+3	3.19E+4	1.72E+2	1.13E+3	9.87E+0	-1.70E+4	1.61E+4
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	9.14E+0	3.30E-2	2.18E+0	1.14E+1	1.81E-2	5.85E-1	1.11E-2	-4.63E+0	7.34E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.72E-3	6.87E-4	2.53E-4	4.66E-3	4.08E-4	1.65E-3	1.08E-5	-4.58E-3	2.15E-3
NHWD	kg	2.54E+1	1.72E+1	3.19E-1	4.29E+1	9.89E+0	4.98E+1	3.95E+1	-1.27E+1	1.29E+2
RWD	kg	2.64E-2	1.78E-3	6.06E-4	2.88E-2	1.08E-3	3.86E-3	5.87E-5	-8.73E-3	2.51E-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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