Environmental Profile

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

Ecochain v3.5.64

Product:	3041790 - PE100 Pressure Pipe BK 63x5.8 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	2.56E+1	5.80E-1	5.92E-1	2.67E+1	3.35E-1	1.09E+1	1.86E-1	-1.68E+1	2.14E+1
GWP-f	kg CO2 eq	2.54E+1	5.79E-1	4.78E-1	2.65E+1	3.35E-1	1.09E+1	1.86E-1	-1.67E+1	2.12E+1
GWP-b	kg CO2 eq	1.24E-1	2.67E-4	5.35E-2	1.78E-1	2.03E-4	-1.26E-2	1.39E-4	-6.35E-2	1.02E-1
GWP-luluc	kg CO2 eq	7.60E-3	2.12E-4	6.06E-2	6.84E-2	1.19E-4	1.88E-3	2.66E-6	-3.81E-3	6.66E-2
ODP	kg CFC11 eq	1.39E-6	1.28E-7	5.92E-8	1.58E-6	7.72E-8	2.45E-7	3.96E-9	-8.03E-7	1.10E-6
AP	mol H+ eq	9.49E-2	3.36E-3	2.90E-3	1.01E-1	1.91E-3	1.03E-2	9.44E-5	-4.64E-2	6.71E-2
EP-fw	kg P eq	4.20E-4	5.85E-6	1.10E-5	4.37E-4	2.76E-6	5.43E-5	1.23E-7	-2.09E-4	2.85E-4
EP-m	kg N eq	1.59E-2	1.18E-3	5.66E-4	1.76E-2	6.82E-4	2.99E-3	6.68E-5	-8.47E-3	1.29E-2
EP-T	mol N eq	1.77E-1	1.31E-2	5.78E-3	1.96E-1	7.52E-3	3.30E-2	3.83E-4	-9.43E-2	1.42E-1
POCP	kg NMVOC eq	8.47E-2	3.73E-3	1.66E-3	9.01E-2	2.15E-3	1.04E-2	1.50E-4	-4.40E-2	5.89E-2
ADP-mm	kg Sb eq	2.29E-4	1.47E-5	1.53E-5	2.59E-4	8.66E-6	4.07E-5	9.48E-8	-1.08E-4	2.00E-4
ADP-f	MJ	9.04E+2	8.74E+0	5.53E+0	9.19E+2	5.14E+0	3.26E+1	2.89E-1	-5.02E+2	4.55E+2
WDP	m3 depriv.	1.95E+1	3.13E-2	3.47E+0	2.30E+1	1.58E-2	6.41E-1	1.32E-3	-9.75E+0	1.39E+1
PM	disease inc.	9.04E-7	5.20E-8	2.46E-8	9.80E-7	3.02E-8	1.69E-7	1.99E-9	-3.67E-7	8.15E-7
IR	kBq U-235 eq	7.80E-1	3.66E-2	1.39E-2	8.31E-1	2.25E-2	9.83E-2	1.35E-3	-3.03E-1	6.50E-1
ETP-fw	CTUe	1.63E+2	7.79E+0	1.44E+1	1.85E+2	4.17E+0	3.70E+1	2.55E-1	-7.29E+1	1.53E+2
HTP-c	CTUh	6.66E-9	2.53E-10	5.39E-10	7.45E-9	1.49E-10	4.39E-9	7.02E-12	-3.47E-9	8.53E-9
HTP-nc	CTUh	1.58E-7	8.52E-9	1.41E-8	1.81E-7	4.98E-9	5.56E-8	1.62E-10	-7.76E-8	1.64E-7
SQP	Pt	3.44E+1	7.58E+0	4.91E-1	4.25E+1	4.40E+0	2.61E+1	7.42E-1	-1.59E+1	5.77E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.46E+1	1.09E-1	3.26E+1	4.73E+1	7.37E-2	1.61E+0	1.14E-2	-7.26E+0	4.18E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.46E+1	1.09E-1	3.26E+1	4.73E+1	7.37E-2	1.61E+0	1.14E-2	-7.26E+0	4.18E+1
PENRE	MJ	9.70E+2	9.28E+0	5.92E+0	9.85E+2	5.46E+0	3.48E+1	3.07E-1	-5.42E+2	4.84E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.70E+2	9.28E+0	5.92E+0	9.85E+2	5.46E+0	3.48E+1	3.07E-1	-5.42E+2	4.84E+2
PET	MJ	9.85E+2	9.39E+0	3.86E+1	1.03E+3	5.53E+0	3.64E+1	3.18E-1	-5.49E+2	5.26E+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	2.95E-1	1.06E-3	8.25E-2	3.79E-1	5.82E-4	1.89E-2	3.57E-4	-1.49E-1	2.49E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.20E-4	2.21E-5	8.16E-6	1.50E-4	1.31E-5	5.31E-5	3.47E-7	-1.48E-4	6.94E-5
NHWD	kg	8.18E-1	5.54E-1	1.04E-2	1.38E+0	3.19E-1	1.60E+0	1.27E+0	-4.09E-1	4.17E+0
RWD	kg	8.51E-4	5.74E-5	1.95E-5	9.28E-4	3.50E-5	1.25E-4	1.89E-6	-2.81E-4	8.08E-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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