Environmental Profile

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

Ecochain v3.5.64

Product:	3041792 - PE100 Pressure Pipe BK 75x4.5 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	2.49E+1	5.64E-1	6.41E-1	2.61E+1	3.26E-1	1.06E+1	1.80E-1	-1.64E+1	2.09E+1
GWP-f	kg CO2 eq	2.48E+1	5.63E-1	5.11E-1	2.59E+1	3.25E-1	1.06E+1	1.80E-1	-1.63E+1	2.07E+1
GWP-b	kg CO2 eq	1.19E-1	2.60E-4	6.08E-2	1.80E-1	1.98E-4	-1.20E-2	1.35E-4	-6.17E-2	1.07E-1
GWP-luluc	kg CO2 eq	7.43E-3	2.06E-4	6.92E-2	7.68E-2	1.15E-4	1.83E-3	2.59E-6	-3.70E-3	7.51E-2
ODP	kg CFC11 eq	1.36E-6	1.24E-7	6.02E-8	1.54E-6	7.50E-8	2.38E-7	3.85E-9	-7.83E-7	1.08E-6
AP	mol H+ eq	9.25E-2	3.27E-3	3.16E-3	9.89E-2	1.85E-3	1.00E-2	9.18E-5	-4.51E-2	6.58E-2
EP-fw	kg P eq	4.10E-4	5.68E-6	1.20E-5	4.28E-4	2.68E-6	5.28E-5	1.19E-7	-2.03E-4	2.80E-4
EP-m	kg N eq	1.55E-2	1.15E-3	5.90E-4	1.72E-2	6.63E-4	2.91E-3	6.49E-5	-8.24E-3	1.26E-2
EP-T	mol N eq	1.72E-1	1.27E-2	6.09E-3	1.91E-1	7.31E-3	3.21E-2	3.73E-4	-9.17E-2	1.39E-1
POCP	kg NMVOC eq	8.25E-2	3.62E-3	1.75E-3	8.79E-2	2.09E-3	1.01E-2	1.46E-4	-4.27E-2	5.75E-2
ADP-mm	kg Sb eq	2.23E-4	1.43E-5	1.74E-5	2.54E-4	8.42E-6	3.96E-5	9.21E-8	-1.05E-4	1.97E-4
ADP-f	MJ	8.80E+2	8.50E+0	5.84E+0	8.95E+2	5.00E+0	3.17E+1	2.81E-1	-4.88E+2	4.43E+2
WDP	m3 depriv.	1.90E+1	3.04E-2	3.94E+0	2.29E+1	1.53E-2	6.23E-1	1.29E-3	-9.48E+0	1.41E+1
PM	disease inc.	8.80E-7	5.06E-8	2.56E-8	9.56E-7	2.94E-8	1.65E-7	1.93E-9	-3.56E-7	7.96E-7
IR	kBq U-235 eq	7.60E-1	3.56E-2	1.38E-2	8.09E-1	2.18E-2	9.56E-2	1.31E-3	-2.95E-1	6.33E-1
ETP-fw	CTUe	1.59E+2	7.58E+0	1.60E+1	1.82E+2	4.06E+0	3.60E+1	2.48E-1	-7.09E+1	1.52E+2
HTP-c	CTUh	6.49E-9	2.46E-10	5.99E-10	7.33E-9	1.44E-10	4.27E-9	6.82E-12	-3.37E-9	8.38E-9
HTP-nc	CTUh	1.54E-7	8.29E-9	1.59E-8	1.78E-7	4.84E-9	5.40E-8	1.57E-10	-7.54E-8	1.62E-7
SQP	Pt	3.36E+1	7.37E+0	4.82E-1	4.15E+1	4.27E+0	2.53E+1	7.21E-1	-1.55E+1	5.63E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.42E+1	1.06E-1	3.73E+1	5.16E+1	7.17E-2	1.57E+0	1.11E-2	-7.06E+0	4.62E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.42E+1	1.06E-1	3.73E+1	5.16E+1	7.17E-2	1.57E+0	1.11E-2	-7.06E+0	4.62E+1
PENRE	MJ	9.44E+2	9.02E+0	6.25E+0	9.59E+2	5.30E+0	3.38E+1	2.98E-1	-5.27E+2	4.72E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.44E+2	9.02E+0	6.25E+0	9.59E+2	5.30E+0	3.38E+1	2.98E-1	-5.27E+2	4.72E+2
PET	MJ	9.58E+2	9.13E+0	4.35E+1	1.01E+3	5.37E+0	3.54E+1	3.09E-1	-5.34E+2	5.18E+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	2.87E-1	1.03E-3	9.35E-2	3.82E-1	5.65E-4	1.83E-2	3.47E-4	-1.45E-1	2.56E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.18E-4	2.15E-5	7.93E-6	1.47E-4	1.28E-5	5.17E-5	3.37E-7	-1.44E-4	6.79E-5
NHWD	kg	7.99E-1	5.39E-1	1.03E-2	1.35E+0	3.10E-1	1.56E+0	1.24E+0	-3.98E-1	4.06E+0
RWD	kg	8.29E-4	5.58E-5	1.90E-5	9.04E-4	3.40E-5	1.21E-4	1.84E-6	-2.74E-4	7.87E-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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