Environmental Profile

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

Ecochain v3.5.64

Product:	3062123 - Wafix PP Pipe BR 160 SN8 L=3
Unit:	1 piece
Manufacturer:	Wavin - SE - Eskilstuna

Wafix PP is a versatile, uncomplicated solution for your indoor drain. You can install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for embedment applications.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	20-06-2022
End of validity:	20-06-2027
Verifier:	Harry van Ewijk - 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 - SE - Eskilstuna (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	1.62E+1	1.56E+0	5.66E-1	1.83E+1	2.10E-1	6.09E+0	9.89E-2	-9.77E+0	1.49E+1
GWP-f	kg CO2 eq	1.61E+1	1.56E+0	4.10E-1	1.81E+1	2.10E-1	6.10E+0	9.89E-2	-9.74E+0	1.47E+1
GWP-b	kg CO2 eq	7.62E-2	7.07E-4	1.08E-1	1.85E-1	1.27E-4	-8.45E-3	8.61E-5	-3.38E-2	1.43E-1
GWP-luluc	kg CO2 eq	4.22E-3	5.74E-4	4.77E-2	5.25E-2	7.43E-5	1.18E-3	1.68E-6	-1.87E-3	5.19E-2
ODP	kg CFC11 eq	3.12E-7	3.43E-7	4.65E-8	7.02E-7	4.83E-8	1.53E-7	2.48E-9	-3.59E-7	5.47E-7
AP	mol H+ eq	5.76E-2	9.44E-3	3.48E-3	7.05E-2	1.20E-3	6.45E-3	5.91E-5	-2.74E-2	5.07E-2
EP-fw	kg P eq	2.39E-4	1.56E-5	7.57E-6	2.62E-4	1.73E-6	3.40E-5	7.70E-8	-1.08E-4	1.90E-4
EP-m	kg N eq	9.58E-3	3.27E-3	1.03E-3	1.39E-2	4.28E-4	1.87E-3	3.85E-5	-4.84E-3	1.14E-2
EP-T	mol N eq	1.08E-1	3.61E-2	1.13E-2	1.55E-1	4.71E-3	2.06E-2	2.40E-4	-5.36E-2	1.27E-1
POCP	kg NMVOC eq	4.99E-2	1.03E-2	3.14E-3	6.33E-2	1.35E-3	6.52E-3	9.01E-5	-2.48E-2	4.64E-2
ADP-mm	kg Sb eq	2.47E-4	3.91E-5	1.24E-5	2.99E-4	5.43E-6	2.56E-5	5.96E-8	-6.45E-5	2.65E-4
ADP-f	MJ	5.72E+2	2.34E+1	4.08E+0	6.00E+2	3.22E+0	2.05E+1	1.81E-1	-3.07E+2	3.17E+2
WDP	m3 depriv.	1.13E+1	8.33E-2	2.63E+0	1.40E+1	9.88E-3	4.01E-1	9.01E-4	-5.32E+0	9.07E+0
PM	disease inc.	5.07E-7	1.39E-7	5.87E-8	7.05E-7	1.89E-8	1.06E-7	1.24E-9	-2.30E-7	6.01E-7
IR	kBq U-235 eq	3.01E-1	9.82E-2	1.21E-2	4.11E-1	1.41E-2	6.17E-2	8.40E-4	-1.42E-1	3.46E-1
ETP-fw	CTUe	8.81E+1	2.08E+1	1.14E+1	1.20E+2	2.61E+0	2.31E+1	1.52E-1	-3.87E+1	1.07E+2
HTP-c	CTUh	4.18E-9	6.80E-10	4.49E-10	5.31E-9	9.31E-11	2.78E-9	4.42E-12	-1.62E-9	6.56E-9
HTP-nc	CTUh	1.10E-7	2.28E-8	1.22E-8	1.45E-7	3.12E-9	3.44E-8	9.75E-11	-4.15E-8	1.41E-7
SQP	Pt	2.08E+1	2.02E+1	5.36E-1	4.15E+1	2.76E+0	1.64E+1	4.65E-1	-8.26E+0	5.28E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.14E+1	2.92E-1	2.57E+1	3.74E+1	4.62E-2	1.01E+0	7.02E-3	-3.81E+0	3.46E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.14E+1	2.92E-1	2.57E+1	3.74E+1	4.62E-2	1.01E+0	7.02E-3	-3.81E+0	3.46E+1
PENRE	MJ	6.14E+2	2.49E+1	4.33E+0	6.43E+2	3.42E+0	2.18E+1	1.92E-1	-3.31E+2	3.38E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.14E+2	2.49E+1	4.33E+0	6.43E+2	3.42E+0	2.18E+1	1.92E-1	-3.31E+2	3.38E+2
PET	MJ	6.26E+2	2.52E+1	3.00E+1	6.81E+2	3.47E+0	2.28E+1	1.99E-1	-3.35E+2	3.73E+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	1.70E-1	2.84E-3	6.24E-2	2.35E-1	3.64E-4	1.18E-2	2.23E-4	-7.96E-2	1.68E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.24E-5	5.90E-5	6.21E-6	1.38E-4	8.24E-6	3.32E-5	2.18E-7	-7.32E-5	1.06E-4
NHWD	kg	6.66E-1	1.47E+0	1.90E-2	2.16E+0	2.00E-1	1.00E+0	7.98E-1	-2.38E-1	3.92E+0
RWD	kg	2.65E-4	1.54E-4	1.73E-5	4.36E-4	2.19E-5	7.81E-5	1.18E-6	-1.28E-4	4.10E-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

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777